AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES APPROPRIATIONS FOR 2013

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES

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PART 4

UNITED STATES DEPARTMENT OF AGRICULTURE

Research, Education and Economics

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AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES APPROPRIATIONS FOR 2013

WEDNESDAY, MARCH 21, 2012.

U.S. DEPARTMENT OF AGRICULTURE

WITNESSES

CATHERINE E. WOTEKI, UNDER SECRETARY FOR RESEARCH, EDUCATION, AND ECONOMICS, DEPARTMENT OF AGRICULTURE
EDWARD KNIPLING, ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE
CHAVONDA JACOBS-YOUNG, ACTING DIRECTOR, NATIONAL INSTITUTE OF FOOD AND AGRICULTURE
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MICHAEL YOUNG, BUDGET OFFICER, DEPARTMENT OF AGRICULTURE

INTRODUCTION OF WITNESSES

Mr. KINGSTON. The committee will come to order.

And I welcome our distinguished panel today: Dr. Catherine Woteki, Under Secretary for Research, Education, and Economics and Chief Scientist for the U.S. Department of Agriculture. We are glad to have you here again. And Dr. Cynthia Clark, Administrator for the National Agricultural Statistics Service; Dr. Mary Bohman, Administrator of the Economic Research Service; Dr. Chavonda Jacobs-Young, Acting Director of the National Institute of Food and Agricultural; Dr. Ed Knipling, Administrator of the Agricultural Research Service; and Mr. Mike Young, USDA's budget director.

And, Dr. Jacobs-Young, I know I was a little confused on the comings and goings, but I want to thank you for your service as acting director of the National Institute of Food and Agriculture. And we look forward to working with Dr. Ramaswamy as the appointed director. We will look forward to continuing working with you, as well, in whatever hats you wear along the line.

USDA is proposing a slight overall increase for its research programs for fiscal year 2013. Within the proposal are significant increases for the Agricultural Census and the Agriculture and Food Research Initiative, as well as many decreases, such as for certain programs at the Agricultural Research Service.

And today we look forward to your testimony. Our committee operates on a 5-minute rule. You will get a red light on. And, depending on the flow of the committee, we can be a little bit relaxed on that, but, generally speaking, when it hits red, if you could wrap up your comments and we will wrap up our questions.

Mr. Farr.

Mr. FARR. Well, thank you very much, Mr. Chairman.

I just have been sitting on this committee for a number of years, and I am very honored that, in light of Women's History Month, this is the first time we have had a panel where the women are in the majority—the smartest women we have had here, they are all doctors, Ph.D's. In fact, Mr. Young is the only one here that—we are going to give you an honorary doctorate for just patience.

But what a tribute to our country and to our leadership in science research that you all have chosen a public service career, and I appreciate that. I appreciate you coming here.

I think that, representing California—well, representing one district, but essentially born and raised in California and being the number-one ag state and producing more crops than some—I think we produce 40 or 50 crops that no other State produces. And what we have learned in California on all economic matters is that the way we stay ahead of the curve is brain trusts. It is about research. It is about—if we can keep, essentially, the term "seed corn" in our camp, people will duplicate us around the world. They may manufacture things around the world, they may compete with us, but the only way we can stay ahead of the curve and stay really economically a giant in the world is to be smarter than the rest of the world.

And agriculture is something that is not going away. It is not something you just—you know, it is not—you don't get a new model. So we have to be—in our issues and debates here about bringing down the cost of health care, we have to make that investment in the first instance, which I always tell my farmers. They are really the first responders to health care in the United States. Because we know we have to get people eating healthy. We know the food that we serve them has to be safe and healthy. And I think that it all comes down to research, education, and economics, which is what this department is all about.

So it is exciting to hear from you. I have some questions about some specific things, but I will wait until my turn for that. I just want to congratulate you again for public service and for being a smart seed corn for the United States.

Thank you very much.

Mr. KINGSTON. Dr. Woteki.

OPENING STATEMENT

Dr. WOTEKI. Thank you, Mr. Chairman. Good morning, Mr. Farr. My colleagues and I are really pleased to be appearing before you today to discuss the President's 2013 budget request for the research, education, and economics mission area agencies. My colleagues have submitted written testimony for the record, and I would like to submit my written testimony for the record and summarize it here.

This is USDA's 150th anniversary year, and I have been reflecting a lot on how much USDA's origins lie in its scientific mission; "to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among the people new and valuable seeds and plants." The act creating the Department also called for acquiring and preserving information by practical and scientific experiments, the collection of statistics, and the creation of the National Agricultural Library.

The same year that USDA was founded, the Morrill Act was signed into law, creating the land-grant university system that today continues to serve as one of our signature accomplishments. Today we take great pride in our heritage and in all we have achieved in partnership with the land-grant universities in education and in research.

Now, in 2012, we face the prospect of needing to double our agricultural production globally on about the same amount of arable land we have in production today, and to do that in the next generation, approximately 38 years. By mid-century, 2050, the United Nations projects the global population will surpass 9 billion people. And to meet their needs, we will have to pursue a strategy of sustainable intensification for agriculture to not only feed our population but also to keep our exports strong and to sustain our natural resources. The only way we are going to achieve those goals is to invest in science, because that is where the answers to all of these fundamental questions and our survival can be found.

The importance of the public investment in agricultural research is noteworthy. Each dollar that is spent on agricultural research returns about $20 worth of benefits to the economy. It is this understanding and a sign of how important research is to the President, as well as to the Department, that the agencies in this mission area are benefiting from a modest proposed increase even within an overall net decrease to the Department's budget.

REE ACTION PLAN

Most of the new work proposed in the 2013 President's Budget on these emerging and higher-priority topics derives from a significant cooperative planning project that was undertaken by all four of the agencies in the mission area. Just last month, February 2012, we released the REE Action Plan, a plan for USDA science and education, written by the program leaders in all four of these agencies after extensive consultation with many customers and stakeholders.

I would like to submit for the record some illustrative accomplishments that we have achieved already against that action plan.

[The information follows:]

ACTION PLAN ACCOMPLISHMENTS

Goal 1. Local and Global Food Supply and Security

The Research, Education, and Economics Mission Area agencies provide information, technologies, analysis, and capacity to enable the U.S. agriculture, food, and fiber systems to produce the food, fiber, and energy to meet growing and changing world demands for these products in an economically and environmentally sustainable manner.

Evans-Allen Program. Virginia State University researchers evaluated and identified grazing goats that show natural resistance and susceptibility to parasites. The ability to track genetic markers that render the animal resistant to disease could further increase market value of breeding stock. With proper marketing strategy, a purebred animal that exhibits disease resistance characteristics can increase the price of goat from $250 to $800 per head.

Food and Agriculture Defense Initiative Program. The National Plant Diagnostic Network (NPDN) is led by diagnostic laboratory centers at Cornell University (New York), University of Florida, Kansas State University, Michigan State University, and University of California at Davis. These institutions receive direct funding from NIFA and provide support to the other land grant plant diagnostic laboratories in their region through subcontracts, training, and leadership. All 50 States and many U.S. territories are connected to the NPDN through digital distance diagnostics, used throughout the Nation to speed early detection of high consequence plant pathogens and solve other agricultural problems. The system allows plant diagnosticians in one location to transmit a digital image across the country to someone with special expertise. Plant disease (and insect) detection criteria have been developed for soybean rust, sudden oak death, Ralstonia stem rot, plum pox virus, pink hibiscus mealybug, potato wart, huanglongbing (citrus greening), Potato Cyst Nematode, Late Blight, Beet Curly Top, Citrus Leprosis and Citrus Blackspot.

The updated USDA Plant Hardiness Zone Map. The updated, on-line version of the USDA Plant Hardiness Zone Map (PHZM) was released in January 2012, and has already registered strong impact on the U. S. gardening public (80 million people strong), the horticulture industry, and the research community. Developed by ARS and Oregon State University researchers, the PHZM depicts geographical patterns across the United States in the average extreme annual minimum temperature, a factor strongly associated with patterns of plant adaptation and survival. It is a tool for gardeners, government agencies, breeders, and growers to identify trees, shrubs, etc. adapted for a specific area. During the first 2 weeks following its release, more than 500,000 total individual visitors (an average of about 25,000 per day) accessed the PHZM Web site, recording more than 20 million page hits. Agricultural extension agents, gardening consultants, and horticultural professionals are already citing information from the PHZM extensively in their recommendations for planting materials. Scientists from USDA and other government agencies are frequently downloading Geographical Information System data from the PHZM web site for their research. Several large garden seed companies are discussing linking their on-line purchasing sites with the PHZM zip code finder so that clientele can order plants and seeds best adapted to local conditions.

New "FasTrack" breeding technique accelerates progress with breeding tree fruit. Tree fruit breeding is a long-term and expensive process because of the long juvenile non-flowering stage in many trees. ARS scientists in Kearneysville, West Virginia, discovered that introducing a gene from the poplar tree, which promotes early flowering and fruiting, shortened the juvenile stage in plum from 3-4 years to less than 1 year. Following the standard breeding procedures, plum trees with the genetically engineered early flowering trait are culled from the breeding stock during the final selection cycle, and the mature, improved trees without the transgene are reserved for further breeding. This method for producing early flowering and fruiting has been termed "FasTrack," and can significantly accelerate the breeding of new and improved varieties of plum and other tree fruits, and forest and woody ornamental species.

The National Plant Germplasm System. Crop diversity must be collected and safeguarded in genebanks in the form of seeds, bulbs, tubers, etc., termed plant germplasm or plant genetic resources. During the last 5 years, the 20-plus genebanks in the USDA ARS National Plant Germplasm System (NPGS) added more than 70,000 new samples and more than 2,000 new plant species to their collections, bringing to a total of more than 546,000 samples of more than 14,300 plant species being conserved by NPGS genebanks. Scientific interest in this germplasm has increased tangibly during the last 5 years, with NPGS distributing more than 1 million plant samples to researchers and breeders world-wide. These materials are keys for continued progress in crop genetics and breeding requisite for future food security. The information associated with collections of plant genetic resources is also invaluable, describing their biological features, and how farmers and breeders have improved and used them for food, feed, fiber, fuel, and other products critical for humanity. During the last 5 years, world-wide use of the ARS Germplasm Resources Information Network (GRIN) database has more than doubled, from about 750,000 to an average of nearly 2,000,000 distinct visits per year. Furthermore, ARS and its cooperators have transformed GRIN into GRIN-Global, a more effective, easy-to-use information management system for efficient genebank operations. GRIN-Global is currently being implemented in some of the "green revolution" CGIAR Centers (e.g., CIMMYT) and in national genebank systems in the developing world.

Future U.S. Agricultural Productivity Growth. The Economic Research Service characterizes and evaluates trend in agricultural research funding and direction, both public and private; the use of various funding instruments; and key factors affecting research and development and resultant productivity growth. By 2050, global agricultural demand is projected to grow by 70-100 percent due to population growth, energy demands, and higher incomes in developing countries. Meeting this demand from existing agricultural resources will require raising global agricultural total factor productivity (TFP) by a similar level. The ERS report *Public Agriculture Research Spending and Future U.S. Agricultural Productivity Growth* shows that the rate of TFP growth of U.S. agriculture has averaged about 1.5 percent annually over the past 50 years, but stagnant (inflation-adjusted) funding for public agricultural research since the 1980s may be causing agricultural TFP growth to slow down. ERS simulations indicate that if U.S. public agricultural R&D spending remains constant (in nominal terms) until 2050, the annual rate of agricultural TFP growth will fall to under 0.75 percent and U.S. agricultural output will increase by only 40 percent by 2050.

Determining the Evolution of Wheat. Agricultural Research Service scientists and collaborators deciphered the genetic mechanism responsible for the domestication of wheat. This research led to the discovery and subsequent characterization of the genes involved, which includes three copies of a gene known as *Q*. Moreover, this work yielded knowledge regarding how the *Q* genes were recruited through evolution for domestication and enhanced agronomic performance, which will help scientists develop novel crop improvement strategies.

ARS, NIFA, and APHIS join forces to coordinate research of Huanglongbing of citrus. Huanglongbing disease of citrus (HLB, also called citrus greening) is now established in all of the citrus-producing counties of Florida, and has been recently found in the Rio Grande Valley of Texas. The psyllid insect vector for HLB is found in California, but not yet the disease. ARS, APHIS and NIFA partnered to coordinate a strong national research effort to control HLB. ARS scientists in National Program 303 (Plant Diseases) worked as a broader team with entomology, horticulture, and genetics to identify gaps, establish priorities, and develop a coordinated research plan, partnering with university, industry, and other State and Federal researchers, on HLB. ARS continues to collaborate extensively with industry and Federal regulatory agencies to help in directing a national effort against HLB that includes research, but also coordinating with extension and education efforts. Through these collaborations, the full genomic sequence of the presumed causal bacterium, the insect vector, and citrus rootstock resistant to the disease were determined and the information made publically available. Collaborations resulted in the development of high-throughput, sensitive, and accurate diagnostic techniques and are being used by scientists developing resistant germplasm and other disease control measures. These diagnostic methods are currently used by the California Department of Food and Agriculture to assay for '*Ca.* Liberibacter asiaticus' directly from the Asian citrus psyllid vector to monitor movement of the suspected pathogen as the psyllids (but not yet the bacterium) are increasingly being detected in California. Monitoring will help alert plant health officials to any introduction of the pathogen. The rootstock sequence has already helped to identify citrus genes for use in developing genetically modified citrus using only citrus-specific genes. Genes and control elements derived from the citrus genome are being trialed to produce "intragenic" sources of resistant cultivars. In addition, improved spray technology has been transferred to growers that significantly reduce the volume and amount of pesticides needed for psyllid control, a significant cost savings for growers.

BeanCAP. Common beans (*Phaseolus vulgaris* L) comprise the world's most important food legume, feeding about 375 million people in Latin America and 200 million people in sub-Saharan Africa. In a very successful inter-agency partnership, the BeanCAP project was funded by NIFA and includes collaborations of bean researchers from five ARS laboratories and six State universities. BeanCAP's major objectives are: 1) Discovery of genetic markers associated with common bean nutritional traits, as well as disease and environmental stresses that impact bean productivity; and 2) Application of genetic marker technology to rapidly develop bean varieties with improved nutritional traits and resistance to disease and other stresses that reduce productivity.

Molecular markers from this research effort have been deployed in the United States and developing countries, and the technology is specifically being used by the Generation Challenge Programme, which was created by the Consultative Group on International Agricultural Research (CGIAR) in 2003 as a time-bound, 10-year program to use genetic diversity and advanced plant science to improve crops by breeding for drought-prone and harsh environments. Deployment of BeanCAP research fits well with Feed the Future – a joint effort of the Department of State, USAID, and the USDA to leverage investments by USDA research that benefits U.S. agriculture in new ways, and that can also benefit farmers in developing countries. Major crop diseases are key examples where 'dual-use' technologies can have broad applicability. U.S. farmers benefit because overseas research partnerships provide important first-line defenses or early warnings against new types of plant pests and emerging diseases.

Goal 2. Responding to Climate and Energy Needs

Because production systems are climate-dependent to varying extents, the ability to respond to changes in climates is critical. Foundational research is necessary to identify plant species appropriate for changing climate, to meet increased energy demands, and to determine the role of agriculture in appropriate greenhouse gas reduction opportunities.

Remote sensing tools for agricultural drought detection. Drought-related reductions in agricultural productivity have profound effects on regional food security and global agricultural commodity markets. The ability to mitigate these effects is frequently limited by difficulties in accurately detecting the onset and severity of agricultural drought, particularly in underdeveloped regions of the world prone to food insecurity. To address this limitation, ARS scientists in Beltsville, Maryland, examined the microwave and thermal radiative signature of agricultural landscapes undergoing drought, and developed a series of satellite remote sensing tools to assess the availability of soil water in the root zone over large geographic regions. These satellite-based strategies enable both the earlier detection of agricultural drought and a more detailed spatial description of its extent and severity. These improvements enhance our ability to mitigate the effects of agricultural drought on global food markets, and to anticipate the social/political consequences of changes in food availability and price. Currently, these technologies, and/or the data sets they create, are being shared with operational drought monitoring activities at the Foreign Agricultural Service, the National Oceanic and Atmospheric Administration, the National Environmental Satellite Data and Information Service, and the National Drought Mitigation Center. This research is already having international effects in helping to quantify drought conditions as related to food insecurity in the Horn of Africa.

Reducing ammonia emission from beef cattle feedyards. Ammonia gas escaping from beef cattle feedyards is a loss of valuable fertilizer nitrogen that can negatively affect sensitive ecosystems and degrade air quality. The quantity of ammonia emitted from feedyards and the factors controlling losses are not understood. ARS researchers from the Conservation and Production Research Laboratory in Bushland, Texas, in collaboration with researchers at West Texas A&M University and Texas AgriLife Research, measured ammonia emissions from two feedyards over a two year period to identify the sources and fate of ammonia gas losses. The major factors affecting emissions were ambient temperature and dietary crude protein concentration in feeds, with more than 52 percent to 59 percent of fed nitrogen lost as ammonia at the two feedyards over the study period. Ammonia emissions are sensitive to crude protein in rations, and increased as crude protein increased above the level needed to meet the physiological needs of cattle. Modifications of diet composition can effectively reduce ammonia emissions by 20 to 50% with only small effects on animal performance. Covering stored manure and incorporating manure when it is land-applied can significantly reduce ammonia losses. The research 1) provides an important database that can be used by scientists to validate and verify process models of gas emissions; 2) assists the cattle industry with accurate science-based information to meet regulatory requirements; and 3) gives regulators more comprehensive real world data to build ammonia emissions inventories.

Oilseed crops for biofuel in crop rotations. Sustainable biodiesel and jet fuel production will require widespread planting of oilseed crops. The several million acres of alternate-year summer fallowed wheat land in Montana is commonly identified for growing oilseed crops. ARS researchers at Sidney, MT in collaboration with South Dakota State University have conducted a long-term study using cool-season *Brassica juncea*, camelina and crambe oilseeds in two-year rotations with durum wheat. They discovered *Brassica juncea* had significantly superior seed and oil yield compared to the other oilseed crops, out-yielding both crambe and camelina by more than 100 and 360 lbs per acre respectively, and oil yield by 145% and 175%, respectively. Most importantly, durum wheat yields in rotations with the three oilseed crops were about 25%-35% lower than durum wheat in summer fallow rotations due to greater soil water use by the oilseed crops than if the alternate year fallow were used. This dispels the common notion that alternate year fallow land is available at no cost to food crop production. The study also showed insertion of the most productive oil seed crop into an every-other-year rotation would earn the farmer a greater overall return despite reduced durum wheat yields. Taken as a whole, this research demonstrates that *B. juncea*'s superior yield and oil producing qualities make it a promising candidate to meet future U.S. biofuel production needs by altering crop rotations in semi-arid areas of the Northern Great Plains.

Ethanol and U.S. Corn Production. The Economic Research Service develops models of bioenergy production, which incorporate social, economic and environmental factors in order to identify sustainable outcomes. The ERS report *The Ethanol Decade: An Expansion of U.S. Corn Production, 2000-09* examined how the farm sector reacted to the increased demand for corn needed to fuel a 9-billion-gallon increase in ethanol production over the last decade. The study showed that harvested corn acreage increased by roughly 10 percent (7.2 million acres) over the same period. Corn acreage increased mostly on farms that previously specialized in soybeans; other farms, however, offset this shift by expanding soybean production. The simultaneous expansion of corn and soybean acreage resulted from a reduction in cotton acreage, a shift from uncultivated hay to cropland, and the expansion of double cropping.

Incorporating manures for improved air and water quality. Manures from animal production systems are increasingly being used as sources of nutrients for agriculture. In contrast to surface application, injecting manure directly into the soil can have both environmental and economic benefits. In collaboration with university partners in five mid-Atlantic states, ARS scientists at University Park, PA, Booneville, AR, and Auburn, AL, conducted research on new methods to incorporate manure directly into soil, as an alternative to the more common method of applying manure directly to the soil surface. By quantifying the benefits of injecting manures into soils with different technologies, researchers demonstrated the potential of new shallow injection technologies to: 1) lower odor to background levels within 3 hours of application; 2) decrease ammonia emissions by more than 70%; and 3) reduce P in runoff to levels comparable to soils that did not receive added manure. Relative to conventional methods, data from a field site on

Maryland's Eastern Shore showed that phosphorus leaching losses were reduced by more than 40% with the manure injection technology. In addition, manure injection caused minimal soil disturbance, thus also reducing erosion in comparison with conventional tillage. The costs of purchasing and maintaining manure injectors were balanced or outweighed by improved use of manure nutrients by crops. As a result of this work, state and federal initiatives in the Chesapeake Bay watershed include plans to expand the use of manure injection technologies to more than 47,500 acres of agricultural lands. The USDA and university research team's work received the 2011 Mid-Atlantic Regional Educational Institution and Federal Laboratory work has been cited in the Watershed Implementation Plans of four Chesapeake Bay watershed states--MD, NY, PA and VA. This research has a focus on capacity building with University of Maryland-Eastern Shore, a land-grant, historically black college.

Goal 3. Sustainable Use of Natural Resources

Research, education, and extension programs that improve soil, air, and water resources while supporting agricultural and forest production on working lands have been the hallmark of USDA for more than a century. Technologies and management prescriptions are developed that produce needed agricultural and forest products while sustaining the natural resources that support their development.

McIntire-Stennis Cooperative Forestry Research. Researchers at the University of Arkansas tested mathematical search techniques to develop management recommendations that will maximize financial return to landowners growing timber. Such computer simulations can study the effects of emerging markets for biomass feedstocks for biofuels and carbon sequestration markets. With training in carbon sequestration methods, the researchers will be able to assist forest landowners in accessing to carbon and biomass markets and obtain payment for ecosystem services from forest lands. Under existing carbon markets and prices, forest landowners in Arkansas can increase returns from a single crop of trees by as much as $150-$180 per acre.

Improved nitrogen management tools released online. Nitrogen losses from agricultural systems impact soil, water, and air quality. There is a need for new tools that can help assess reactive nitrogen losses from agricultural systems. The Nitrogen Trading Tool, Nitrogen Index 4.3, and NLEAP-GIS 4.2 were calibrated and validated using field measurements, and were released via a new ARS webpage (http://www.ars.usda.gov/npa/spnr/nitrogentools). These tools have been downloaded hundreds of times and are being used by international agencies, universities, and national and international peers to assess the effects of management practices on nitrogen losses to reduce nitrogen losses to the environment.

Successful biological control of Melaleuca has restored the Florida Everglades. The Australian wetland tree Melaleuca, *Melaleuca quinquenervia* has invaded more than 500,000 acres of wetland habitat in southern Florida, including the Everglades, and has altered forest structures, degraded wildlife habitat and reduced biodiversity in freshwater marshes by 60-80%. Melaleuca is the largest weed ever targeted for biological control. The introduction of three biological control agents, discovered by the USDA-ARS Australian Biological Control Laboratory and developed in collaboration with the USDA ARS Invasive Plant Research Laboratory in Florida, has severely limited the ability of this weed to regenerate and reinvade following mechanical and chemical removal (integrated control). The USDA-ARS established The Area wide Management and Evaluation of *M. quinquenervia* (TAME Melaleuca) to facilitate the landscape level adoption and integration of biological control with conventional control tactics. Over two million biological control agents were redistributed throughout the melaleuca infested regions of Florida to augment their natural dispersal and promote biologically based management on private lands. As a result, flowering has been reduced by over 95% which has drastically impacted seed production, 85% of saplings and seedlings are now killed, and there has been a fourfold increase in biodiversity. Melaleuca is now under control and the project is considered a major success.

High Resolution Cropland Data Layer. The National Agricultural Statistics Service provides additional data on crop conditions, soil moisture, and/or drought monitoring by publishing cropland data layer technology for all 48 contiguous states. NASS completed its second 48 state Cropland Data Layer (CDL) in 2011 for the 2010 crop year. The 2010 CDL was produced at a higher resolution of 30 meter pixels verses the 56 meter pixels for the 2009 CDL. The higher resolution improves the accuracy of the classifications and the precision of the acreage estimates, generated for 41 states and 18 different crops.

Nitrogen in Agricultural Systems and Conservation Policy. Culminating a major interagency effort by ERS and Agricultural Research Service (ARS) researchers, the ERS report Nitrogen in Agricultural Systems: Implications for Conservation Policy describes nitrogen's ability to affect the environment, and examines the degree to which it is inappropriately applied for agricultural uses and the pros and cons of programs and policies for improving its use. Water quality impairments from nitrogen are an important environmental issue for the Environmental Protection Agency (EPA) - the EPA has been given three different briefings on this research report's findings. Our research findings are helping EPA evaluate State watershed implementation plans in the Chesapeake Bay watershed and elsewhere.

Goal 4. Nutrition and Childhood Obesity

The Research, Education, and Economics Mission Area agencies build the evidence base for food-based and physical activity strategies and develop effective education/extension translational activities to promote health and reduce malnutrition and obesity in children and high-risk populations.

Smith-Lever 3(d) Funding and the Expanded Food and Nutrition Education Program. The Expanded Food and Nutrition Education Program (EFNEP) program continues to be highly effective in changing participants' behaviors, resulting in significant improvements in daily living skills. Ninety-four percent of adults reported improvements in their diets including consuming the equivalent of nearly one additional cup of fruits and vegetables, 84 percent of recent graduates improved food management practices, 89 percent improved nutrition practices, and 67 percent improved food safety practices. Multiple cost-benefit studies in past years show that every dollar invested in EFNEP results in $3.63 to $10.64 in saved health care costs and $2.48 saved in food expenditures. State success examples include: The University of Kentucky EFNEP reported that 98 percent of EFNEP program participants made an improvement in the nutritional quality of their diets. The University of Rhode Island EFNEP reported over 82 percent of its EFNEP families showed improvement in one or more nutritional practices.

Intensive lifestyle changes needed to help children prevent obesity. Although many factors contribute to development of obesity, many interventions target a single factor such as one food group or exercise and follow subjects for relatively short periods of time. ARS-supported scientists at Houston, Texas, found that focusing on improved eating and exercise habits using behavioral modification strategies to individualize plans led to decreases in body mass index, subcutaneous fat, serum cholesterol and triglycerides in a group of overweight Mexican-American adolescents and these changes were maintained over 2 years. These findings indicate the benefit of intensive, daily intervention and point to future development of more cost-effective programs that can achieve the same benefits.

USDA Food Desert Locator Tool. In May 2011, ERS released a new mapping tool, the *USDA Food Desert Locator* tool -- an internet-based mapping tool that pinpoints the location of food deserts around the country. It provides data on population characteristics of census tracts where residents have limited access to affordable and nutritious foods. The Food Desert Locator tool is used along with other data being developed across the country for Healthy Food Finance Initiative (HFFI) grant applications. In addition, the Locator Tool has also been used by food retailers to identify underserved communities for new store locations and health and nutrition researchers investigating the impact of food access and the food environment on food choices and health outcomes.

Food Security Status of Americans. Each year, ERS calculates and reports on the food security status of Americans. The latest report, Household Food Security in the United States in 2010, found that an estimated 85.5 percent of American households were food secure throughout the entire year in 2010, meaning that they had access at all times to enough food for an active, healthy life for all household members. The remaining households (14.5 percent) were food insecure at least some time during the year, including 5.4 percent with very low food security—meaning that the food intake of one or more household members was reduced and their eating patterns were disrupted at times during the year because the household lacked money and other resources for food. The prevalence rate of very low food security declined from 5.7 percent in 2009, while the change in food insecurity overall (from 14.7 percent in 2009) was not statistically significant. The typical food-secure household spent 27 percent more on food than the typical food-insecure household of the same size and household composition. Fifty-nine percent of all food-insecure households participated in one or more of the three largest Federal food and nutrition assistance programs during the month prior to the 2010 survey.

ARRA and SNAP. The American Recovery and Reinvestment Act of 2009 increased benefit levels for the Supplemental Nutrition Assistance Program (SNAP) and expanded SNAP eligibility for jobless adults without children. The ERS study *Food Security improved following the American Recovery and Reinvestment Act of 2009 (ARRA) increase in SNAP Benefits* shows that that food expenditures by low-income households increased by about 5.4 percent and their food insecurity declined by 2.2 percentage points from 2008 to 2009. Food security did not improve for households with incomes somewhat above the SNAP eligibility range. These findings suggest that the ARRA SNAP enhancements contributed substantially to improvements for low-income households.

Goal 5. Food Safety

The production, processing, and distribution system for food in the U.S. is a diverse, extensive, and easily accessible system. This open system is vulnerable to the introduction of contaminants through natural processes and global commerce, and by intentional means. Research, Education, and Economics Mission Area agencies provide the means to ensure that the food supply is safe and secure for consumers, and that the food and feed meet domestic and foreign regulatory requirements. Accomplishments and outcomes are utilized in national and international strategies delivering research results to regulatory agencies, commodity organizations, industry, and consumers.

Foodborne Illness Cost Calculator. The ERS *Foodborne Illness Cost Calculator* provides information on the assumptions behind foodborne illness cost estimates—and gives users the opportunity to make their own assumptions and to calculate their own cost estimates. ERS's estimates of the costs of illness and premature death for a number of foodborne illnesses have been used in regulatory cost-benefit and impact analyses. Like all cost estimates, the ERS estimates include assumptions about disease incidence, outcome severity, and the level of medical, productivity, and disutility costs. Changes to any of these assumptions could change the cost estimates and as a result, change the way policy makers rank risks, prioritize spending, and formulate food safety policies.

AFRI Funding and E. coli. A project at the University of California is focusing on the factors affecting E. coli O157:H7 survival on lettuce. Researchers suggest the project outcome can be used for improved control measures aimed at mitigating the risk of the organism surviving after a contamination event. Developers established a laboratory system to measure the growth and survival of virulent and attenuated E. coli O157:H7 isolates in the growth chamber on lettuce exposed to environmental regimes that mimic those found in the field. The identification of the factors influencing the survival of E. coli O157:H7 on lettuce is expected to develop agricultural practices that may reduce outbreaks associated with these economically valuable and otherwise healthy crops.

1890 Institutions and Foodborne Illness. The National Institute of Food and Agriculture funded research scientists and extension personnel at the Southern University Agricultural Center in Louisiana collaborated to inform the citizens of Louisiana the impacts of food borne illnesses. The goal was to help citizens, especially the elderly, low income, educationally disadvantaged and poor families, enhance their skills in proper food selection, storage and preparation. To ensure sustainable and safe food production practices, research and educational information was also directed at producers, food businesses and food handlers. Nutrition educators reached over 2,965 families with 95 percent of the participants learning how to make their own healthy snacks and adhering to food safety guidelines. Additionally, 90 percent of all participants can now correctly identify healthy foods, 89 percent can correctly read the nutrition facts label, 90 percent practice comparison shopping, and 70 percent plan meals.

Recent foodborne outbreaks have increased the awareness that certain Shiga toxin-producing E. coli (STEC) serogroups, including E. coli O26, O45, O103, O111, O121, and O145 cause a similar illness in humans as E. coli O157:H7. Since these "top six" non-O157 STEC serogroups can be as dangerous as E. coli O157:H7, the USDA Food Safety and Inspection Service (FSIS) has very recently declared these STEC as adulterants in beef. At the request of the FSIS, ARS researchers at Wyndmoor, Pennsylvania, developed a step-wise protocol to detect and identify and characterize these non-O157 STEC pathogens in beef. The steps consist of enrichment, detection by the polymerase chain reaction targeting important genes involved in the disease process and serogroup-specific genes, and strain isolation. Further, ARS developed, evaluated, and transferred a latex agglutination test (LAT) for confirmation of the STECs. The method for developing and purifying the polyclonal antibodies used in the LAT assay was released early so as to allow commercialization and availability to industry, a critical concern for FSIS. The impact of developing the detection, isolation and confirmation for the non-O157 STEC protocol cannot be overestimated. Although regulatory/industry monitoring for non-O157 STECs has now been postponed from March 2012 to June 2012 the technology ARS developed will be employed by the FSIS and industry to monitor through regulations these important pathogens in beef.

Faster and better methods of analysis to monitor pesticide residues in foods. ARS researchers at Wyndmoor, Pennsylvania, validated both qualitatively and quantitatively the updated QuEChERS (quick, easy, cheap, effective, rugged, and safe) version coupled to low-pressure gas chromatography-tandem mass spectrometry for fast analysis of 150 pesticides in a variety of foods including, cantaloupe, broccoli, lemon, sweet potato, and catfish. The enhanced selectivity and sensitivity of this technology allowed pesticide residues to be separated in less than 7 minutes and to achieve less than 5ng/g limits of quantification. Qualitatively, no false positives or false negatives were observed for randomly spiked and blinded extracts at contamination levels greater than 10ng/g in the different matrices. The impact of this technology development is very high. This is a new state-of-the-art method of analysis to be implemented by the FSIS National Residue Program, be transferred to the FDA Center for Veterinary Medicine for validation by this agency for their use, and will be evaluated in an AOAC International collaborative study for enhanced technology transfer to regulatory monitoring laboratories around the world. The method is likely to become the "international gold standard" for monitoring pesticide residues in foods.

Noroviruses are the most frequent cause of outbreaks of foodborne illness in the U.S. and other parts of the world. Illnesses caused by the consumption of virus contaminated shellfish are a worldwide problem and result in severe economic closes to the shellfish industry due to product recalls. Interventions such as depuration do not work for viruses, and while cooking does kill the virus, it also alters the organoleptic qualities of the shellfish meat. ARS, in collaboration with academia and industry, evaluated the use of high hydrostatic pressure (HHP) technology as a commercial intervention. HHP is known to maintain the appearance, quality and texture of foods and could serve as a practical application facilitating the shucking process by separating meat from the shell. The research showed that murine norovirus, a surrogate for human Norovirus, and hepatitis A virus, in both shucked oyster meat and in whole in-shell oysters were inactivated by HPP. Shellfish producers in Washington State employ HHP technology for processing and developing oyster products. These HHP products are exported internationally due to their high quality, safety and extended shelf-life. Further, ARS researchers at Dover, Delaware, collaborated with the University of Bari, Italy, to confirm that HHP was a viable intervention for eliminating hepatitis A virus in commercial blue mussels from the Mediterranean. HHP is now being evaluated in Italy as an alternative to commercial mussel depuration.

Goal 6. Education and Science Literacy

The Research, Education, and Economics Mission Area agencies play an important role in the recruitment, cultivation, and development of the next generation of scientists, leaders, and highly-skilled workforce for food, agriculture, natural resource, forestry, environmental systems, and life sciences. If America is going to hold its leadership position in the global economy, it is vital that we leverage the talents and skills of students across the broad spectrum of economic, ethnic, and social segments of the U.S.

Hispanic Serving Institutions Education Grants Program. Reedley College in California, partnered with California State University, Fresno; California Polytechnic State University, San Luis Obispo; University of California, Davis; California State University, Chico; the Kearney Agriculture Research Center (California) and USDA to develop and implement a competitive agricultural leadership and education program. The program supports undergraduate and graduate students from underrepresented groups to prepare them for careers in and related to the food, agriculture and natural resource system. As a result of this program, survey results revealed that 90 percent of the participants increased their knowledge of California agricultural issues. Also there was a 14 percent increase of freshmen declaring agricultural majors.

1890 Institutions Capacity Building Grants Program. A Kentucky State University (KSU) teaching project implemented biotechnology training from middle school through post-secondary education. The project presented summer workshops for middle school and high school students, K-12 teachers, and non-traditional students, and enhanced current biotechnology-related courses at the university. This project had positive effects on the participating KSU undergraduate students. Students learned modern techniques, scientific thinking, and transferable skills in a laboratorial environment with the goal of enhancing their interests and confidence in science, technology, engineering, and mathematics fields.

Tribal Colleges Education Equity Grants Program. Educators at North Dakota's Turtle Mountain Community College are developing and implementing two new degree based curricula in Plant Sciences and Natural Resources. The project is expanding opportunities for Native American agricultural education in areas that address community needs. The Plant Sciences curriculum is focused on the areas of Horticulture, Gardening and Greenhouse operations. The Natural Resources curriculum is enhances development in culturally appropriate areas that include Global Positioning System/Geographic Information Systems (GPS/GIS), fish and wildlife and environmental ecology. This project has impacted the community by providing gardening activities, entrepreneurship training, GPS/GIS training for secondary science teachers and computer technicians. Additionally, the entrepreneurship program provided ideas for cottage industries and small businesses for over 200 persons.

NASS and the USDA-1890 National Scholars Program. The National Agricultural Statistics Service worked closely with USDA-1890 National Scholars Program to establish a two year scholarship option to complement the traditional four year option. This additional flexibility provides more incentive for the agencies to participate in the program. There are several benefits such as proven academic performance at the university level, scholars are available to join the workforce sooner, agencies may sponsor two students for the price of one, and it helps agencies improve staff diversity goals.

Goal 7. Rural Prosperity/Rural-Urban Interdependence

A central element in the debate about the future of rural America is how rural areas position themselves to better compete in a global environment where skills, knowledge, and innovation are key drivers of economic growth and prosperity. Research, Education, and Economics Mission Area agencies provide effective research, education, and extension that inform public and private decisionmaking in support of rural and community development.

Hatch Act Funding for Small Business. Small businesses, including those in the agriculture and biotechnology fields, constitute the backbone of Maine's economy. Value-added contributions from the agriculture community leverage these positive impacts, including increased revenues and several employment opportunities for rural workers. University of Maine food scientists are helping Maine's agricultural and biotechnology industries grow and find new markets for their products. Their work with a State biotechnology firm in the area of melamine/cyanuric acid analysis has helped the firm to refine its rapid assay kit and has led to the creation of several scientific research jobs.

Smith-Lever 3(b) and (c) Funding and Dairy Production. The total economic impact of one dairy animal is about $14,000, which includes the ripple effects from the milk production on the farm through the creation of products for human consumption. University of Missouri Extension provided educational programs to increase knowledge and understanding of pasture-based dairy systems, including classroom and on-farm workshops, discussion groups and mass media. In 2010, a new pasture-based dairy was started and several other producers began work toward establishing systems as the economy improves. As a result of such recent extension programs, growth in Missouri by new grazing dairies created $100 million in new investment, generated $40 million in annual milk sales, added $124 million in total output, and added 1,100 additional jobs to the State.

Beginning Farmers and Ranchers Program. The goal of a Pennsylvania Beginning Farmers and Ranchers program is to increase the success of beginning farmers and ranchers in the Southeast Region of Pennsylvania. Beginning farmers and ranchers in the region were trained in production, marketing, financial management and land acquisition skills necessary for successful farm entry. One year after completion of courses participants were surveyed which resulted in 89 percent of participants adopting new best practices. On average they adapted four new practices. Also as a result, 43 percent saw improved productivity increase due to new practices they adopted; and more than half, 58 percent, noted their new practice had improved their products' quality.

Outreach to Better Represent the Agricultural Population. The National Agricultural Statistics Service conducted outreach efforts to promote partnerships among colleges, universities, local and regional community-based organizations, and field based organizations to identify and address the needs of underserved populations. As the Census of Agriculture data show, NASS increased the counts of operators for the minority populations and for female operators, .

demonstrating the agency's commitment to better serve and represent the entire agricultural population in the Census figures. As a result of a request from several of the CBO partners, NASS developed a database of statistics based on race, ethnicity, and gender that is now available at the county level. These micro-level data are invaluable to the CBOs and university partners as a means to identify populations that CBOs and academia can reach out to and help educate these producers about USDA programs. The data are also being used by agency staff, legislators, and researchers.

2012 Census of Agriculture Preparation. In preparation for the 2012 Census of Agriculture, NASS focuses great effort on building and maintaining a list of farms and ranches. Over the last three years NASS has conducted three pre-census screening surveys aimed at extending and improving coverage of U.S. farms. The final screener, mailed out in December 2011, reached over one million potential new farms. This extensive screening process is critical for developing a proficient mail list that covers sales, production, production practices, and operator characteristics in providing an accurate snapshot of American agriculture. During these list building processes, NASS has a keen focus on expanding coverage of minority populations and specialty commodities. Since the last census of agriculture, NASS has enhanced and expanded partnerships with Community Based Organizations to gather more lists of potential farmers and ranchers and increase awareness of the importance of responding to the Ag Census. NASS staff continuously evaluates the coverage of its farm's database and often directs staff in field offices to target particular commodities that are known to have less coverage, such as specialty livestock.

ERS Studies Outmigration. The Economic Research Service produces new knowledge about the economic and social forces that encourage return migration to geographically disadvantaged (remote, low-amenity) rural areas, with emphasis on the role of local institutions and community leadership, as well as on the social, cultural, and educational opportunities. Population loss through net outmigration is endemic to many rural areas. The ERS report *Nonmetropolitan Outmigration Counties: Some Are Poor, Many Are Prosperous* showed that over a third of non-metro counties lost at least ten percent of their population through net outmigration over 1988-2008. Some of these counties have had very high poverty rates, substantial loss in manufacturing jobs, and high unemployment. Lack of economic opportunity was likely a major factor in their high outmigration. Most high net outmigration counties, however, are relatively prosperous, with low unemployment rates, low high school dropout rates, and average household incomes. For these counties, low population density and less appealing landscapes distinguish them from other nonmetro counties.

OPENING STATEMENT

Dr. WOTEKI. Looking forward, yet being realistic about our economic climate, we must now simultaneously streamline and enhance our research, education, and extension capabilities while using our resources intelligently and efficiently.

We are having to make a lot of tradeoffs in the budget that we are proposing. For example, the Agricultural Research Service proposes to reallocate over $50 million in current program funding in order to expand research initiatives in high-priority crop and livestock protection, food safety, human nutrition, and sustainable agriculture. And the National Agricultural Statistics Service has begun discussions around a multiyear restructuring and modernization of its processes to maximize its effectiveness and to improve the quality of the data that it produces.

These are times when we have to focus on our core priorities and to build upon them. And under Secretary Vilsack's strong leadership, we are continuing to identify other efficiencies that we can achieve. We have reduced travel by 20 percent. We have moved to making the administrative processes of REE leaner and more efficient. We provided retirement options across the four agencies and have greatly reduced hiring.

The 2013 budget that we have put forward represents the agencies' cooperative and collaborative response to critical challenges that are facing agriculture. And the details of the agencies' requests are in their written testimony that we have already submitted for the record.

Mr. Chairman, Mr. Farr, we want to thank you again for your time and for the opportunity to appear before you today. And my colleagues and I would be pleased to answer any questions you might have.

Mr. KINGSTON. Well, thank you very much, Dr. Woteki.

[The information follows:]

RESEARCH, EDUCATION, AND ECONOMICS

Statement of Dr. Catherine E. Woteki, Chief Scientist and Under Secretary Before the Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

Mr. Chairman, Ranking Member Farr, and members of the Subcommittee, my name is Catherine E. Woteki, and I am the Under Secretary for Research, Education and Economics and Chief Scientist at USDA. I am pleased to appear before you to discuss the President's 2013 budgets for the Research, Education, and Economics (REE) mission area agencies of the United States Department of Agriculture (USDA). I am accompanied by the Administrators of the four agencies: Dr. Edward Knipling, Administrator of the Agricultural Research Service (ARS); Dr. Mary Bohman, Administrator of the Economic Research Service (ERS); Dr. Cynthia Clark, Administrator of the National Agricultural Statistics Service (NASS); and Dr. Chavonda Jacobs-Young, Acting Director of the National Institute of Food and Agriculture (NIFA). Also present is Michael Young, the Department's Budget Director. Each Administrator has submitted written testimony for the record, which provides a complete description of their proposed budgets.

This is the USDA's 150th anniversary year. I've been reflecting a lot lately on how much USDA's origins lie in its scientific mission "to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among the people new and valuable seeds and plants." The Act creating the Department also called for acquiring and preserving information by practical and scientific experiments, the collection of statistics and the creation of the National Agricultural Library. The same year that USDA was founded, the

Morrill Act was signed into law, creating the Land Grant system that today continues to serve as one of our signature accomplishments. The system consists of not only the universities designated in 1862, but also land-grant universities designated in 1890 (historically black colleges and universities) and in 1994 (tribal colleges). More than 20 million students, many of whom are the first in their families to graduate from college, have successfully graduated from these schools and helped to build your States and America as we know it. Today we take great pride in our heritage and in all we've achieved in partnership with these great education and research institutions.

The agencies in the REE mission area have a history of doing the research that supports every other area of USDA and some other departments, and that keeps our country fed, at one of the lowest food costs in the world. Pioneering work in genetics and genomics has made remarkable strides for farmers and producers. Cutting edge science has increased production – and farmers' bottom lines – in the dairy industry, in cattle and small ruminant breeding, and in row crops and fruit. And all Americans benefit.

Our scientists work collaboratively with researchers throughout government, the private sector and universities to address some of the Nation's and the world's biggest challenges. In one recent example, ARS, NIFA and the Animal and Plant Health Inspection Service (APHIS) joined forces to coordinate and advance research into citrus greening, which threatens the citrus industry. During the past five years, researchers at ARS have transformed their Germplasm Resources Information Network (GRIN) database into GRIN-Global, which will enable scientists around the world to access stored seeds and other germplasm as they implement the next "green revolution" for global food security.

The analysis and statistical work done by ERS and NASS guide policy makers, regulators, consumers, businesses and the global marketplace with high-quality, dependable and timely economic research. The scientific questions we pursue at USDA span the range of the most pressing issues facing the planet today – from food security to food safety to helping farmers produce and remain profitable in the face of emerging diseases of crops and livestock -- and more variable weather patterns -- to informing our commodity markets. We do our work at a truly crucial point in time for our country and the world – and in the past two years we have done it even under dramatic reductions in research and education.

We face the prospect of needing to double our agricultural production globally – on about the same amount of arable land we have in production today – in the next 38 years. By 2050, the United Nations projects that the global population will surpass 9 billion people, 2 billion more than today. To meet these needs, we will have to pursue a strategy of sustainable intensification for agriculture, to not only feed ourselves, but also to keep our exports strong, and sustain our natural resources. The only way to achieve those goals is to invest in science, because that is where the answers to all of these fundamental questions – and our survival – can be found. While budget constraints in recent years have been challenging, I am happy to report that this year's budget upholds the long recognition that research is an important strategic investment for the Department, as the Secretary pointed out in his recent testimony. Clearly, agricultural research continues to be an important strategic investment for national security, for our farm economy and rural America, and for the Nation as a whole as we work toward an economy that is built to last.

The importance of these investments in agricultural research can be illustrated in this simple ratio of 20:1. That is, each dollar spent on agricultural research returns about $20 worth of benefits to the economy. It is this understanding and a sign of how important research is to the President and the Department that REE benefits from modest proposed increases even with an overall net decrease to the Department's budget. Look deeper and you will realize there are numerous shifts that reallocate funds to higher priority from lower priority programs and projects. This budget, therefore, contains many tradeoffs. In order to focus on the critical goals of assisting rural communities to prosper, keeping agriculture productive and our food supply secure, enhancing research into conservation practices, developing our bio-economy and ensuring all children have a safe and nutritious food supply, REE has had to recommend a redirection of some of our *existing* work to pay for *new* work.

The 2008 Farm Bill was quite clear in its instruction to the Under Secretary of REE to create the role of the Chief Scientist and to work with the agencies under REE to coordinate and create complementary but not duplicative research. Most of the new work proposed in the 2013 President's Budget on these emerging and higher priority topics derives from a significant cooperative planning project undertaken by all the agencies in REE. In February 2012, we released the REE Action Plan, a plan for USDA science and education written by program leaders from all of the REE agencies after consultation with many customers and stakeholders, both internal to USDA and our agencies, and from outside USDA. We are not only committed to following this action plan, we are committed to updating it and reporting on it in the coming years. In fact, we have created a short first accomplishment report on the Action Plan that I have included as an appendix to my written testimony.

The Action Plan is critical in more ways than one. First, it brings to fruition work begun at the direction of the 2008 Farm Bill, which resulted in the initial report produced by my predecessor in early 2010 called *A Roadmap for USDA Science*. Now more than ever, careful planning is fundamental to global prosperity and security, and a dynamic and integrated strategic vision can be a guiding force for continued innovation, as well as the means to maximize the potential of our world-renowned system of agricultural science and education. Working with the land grant universities is one of the best tools we have to continue that innovation.

Our partnership with the land grants has paid great dividends over the years. One example is the BeanCAP project, in which NIFA funded collaborative research between five ARS laboratories and six State universities. They discovered genetic markers associated with common bean nutritional traits, and developed applications that could rapidly develop bean varieties with improved nutritional qualities and resistance to disease and other stresses that reduce productivity. BeanCAP fits in well with another collaborative effort – the Feed the Future Initiative – which brings together the Department of State, USAID and USDA to benefit U.S. agriculture and farmers in developing countries, where beans are a staple crop for so many people. These kinds of results highlight the value of partnerships, and the need to reinvigorate the research and development partnership between the Federal government and the States to face today's many challenges.

Our new Action Plan reflects that, collectively, we have—at USDA and with our many partners—a robust infrastructure to perform world-class science. We have many of the world's best scientists working at USDA and in our partner institutions. This rich and deep talent base is capable of addressing almost any problem we can put before it. It is a resource to be cultivated. One of the accomplishments I am most proud of here at REE is the more than 6,000 graduate students we currently have being trained in our laboratories or with our funds. The funds you give us help to maintain that intellectual resource for our future.

Looking forward, yet facing the realities of today's economic climate, we must now simultaneously streamline and enhance our research, education, and extension capabilities while using our resources intelligently and efficiently. We must make tradeoffs. For example, ARS proposes to reallocate over $50 million in current program funding in order to expand research initiatives in crop and livestock protection, food safety, human nutrition, and sustainable agriculture. NASS has begun discussions around a multi-year restructuring and modernization of its processes to maximize its effectiveness and improve its data quality. These are times when we have to focus on our core priorities and build upon them. Under Secretary Vilsack's strong leadership, we continue to find other efficiencies throughout REE. We have reduced travel by 20 percent and have moved to make the administrative wing of REE leaner and more efficient. We provided retirement options across the REE agencies, and we have greatly reduced hiring.

This budget represents the REE agencies' cooperative and collaborative response to critical challenges facing agriculture. We in REE, as documented in our new Action Plan, aim to take on these problems in a complementary fashion, with intra- and extramural programs conducted in ARS laboratories and land grant universities; through basic science, applied science, economics and statistics.

Now let me get into some specifics for REE and each agency. The 2013 budget proposal for REE is $2.6 billion, an increase of roughly $65 million.

As in years past, we request increases for extramural research that accounts for roughly 48 percent, with intramural (including NASS) accounting for roughly 52 percent. This balanced portfolio is one of USDA's biggest strengths. ARS, ERS and NASS sustain in-house capabilities and facilities vital to meeting both emerging challenges and long-term problems, while formula funds help maintain the Nation's excellent agricultural extra-mural research infrastructure and the programs that enhance scientific discovery through targeted competitive funds. The coordinated thinking and work that have gone into the REE action plan goals and strategies leverage and exploit this intra- and extra-mural partnership to its fullest.

I'll speak briefly about each agency in turn now. You have full written testimony from each of the Administrators, but I'd like to point out some of the highlights.

NASS will conduct data collection for the 2012 Census of Agriculture beginning in December 2012, so you see in our proposal a total of $179 million, which is an increase of $21 million to fund this every five-year census. Excluding the cost of the Census, NASS is actually budgeted at $117 million, which is the same as 2012. However, within that total, NASS will increase funding to improve the data quality and accuracy of the county estimates program by $3.4 million, using savings generated from the efficiencies created through the creation of the National Operations Center.

Moving on to ARS, you see $1.1 billion for ARS research and information; a net increase of approximately $8 million. Within the total funding, we are proposing $78 million in increases to address the Nation's most critical research needs. These increases are funded by reallocations of $50.4 million from lower priority programs, and elimination of $20 million in lower priority extramural projects. These redirections and eliminations will result in the closure of six ARS laboratories and reallocation of those resources to higher priority areas. We are pleased with the inclusion of a proposal of a $36 million increase for research on environmental challenges facing agricultural production. This highlights our coordination with other Federal agencies and university partners and our responsiveness to customer and stakeholder priorities. Over the last few years drought, excessive flooding and other weather-related challenges to agriculture have created needs for farm and ranch alike.

NIFA requests $1.2 billion budgeted for NIFA discretionary programs; a net increase of roughly $36.7 million. Smith-Lever, Hatch Act and other formula grants accounts for $654 million of this total. Other NIFA discretionary grant programs total $590 million. Of the total request, $325 million is for the Agriculture and Food Research Initiative (AFRI), which is an increase of approximately $61 million from 2012.

Finally, for the Economic Research Service, ERS, you see an overall proposed budget of $77 million, which constitutes a decrease of $326,000, terminating some of ERS' lower priority programs.

Mr. Chairman, as you can see, the President's 2013 budget for USDA's REE mission area agencies continues making critical investments in agricultural science and education. We have worked hard to reallocate resources so that intramural and extramural scientists and researchers can continue to perform at the highest level of achievement, as they always have. But I would be remiss as the Under Secretary of my mission area – and as the Department's Chief Scientist – if I didn't point out that supporting agricultural research is a wise and absolutely necessary investment for our Nation.

No less than the seven former Secretaries of Agriculture who spoke at the Ag Outlook conference recently, as well as philanthropist Bill Gates, have called for making the funding of agricultural research a top priority for our country. There is a global consensus emerging on this score, with agricultural research being placed high on the agenda of the upcoming G-8 and G-20 meetings. The work done by the scientists and researchers of REE is irreplaceable to advancing the health and well-being of our Nation and the world. Keeping our place as international leaders in agricultural science is of paramount importance to fulfilling that mission.

Under Secretary Vilsack's leadership, the REE agencies are focused on streamlining for efficiencies and eliminating redundancies while maintaining a world-class level of science. This 150th year of USDA provides us all a moment to reflect on the importance and impact of our mandate. We look forward to working with you during this budget process to ensure that the work of the REE agencies can continue to meet the needs of our Nation.

Thank you again for your time and I would be pleased to answer any questions you may have.

AGRICULTURAL RESEARCH SERVICE

Statement of Dr. Edward B. Knipling, Administrator Before the Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

Mr. Chairman and members of the Subcommittee, I appreciate this opportunity to present the Agricultural Research Service's (ARS) budget recommendations for 2013. The President's 2013 budget request for ARS' research programs is $1,102,565,000, which is an increase of $7,918,000 from the agency's 2012 funding level.

ARS' 2013 budget request proposes to increase by $72,704,000 research initiatives in environmental stewardship; crop and livestock production and protection; food safety; human nutrition; and library and information services. In addition, ARS proposes an increase of $3,000,000 for the repair and maintenance of its laboratories and facilities. Offsetting ARS' requested increases are $70,492,000 in proposed reductions in ongoing research programs, $50,410,000 from low priority research programs and $20,082,000 from extramural research programs.

Proposed Increases for Research Programs

The specific priority research initiatives that ARS proposes for 2013 are:

- Environmental Stewardship -- $35,946,000

  Agriculture in the 21st century faces a series of challenges in providing a sustainable and sufficient level of food, fiber, and fuel to support a growing global population at a time when our natural resources, environmental health, and available arable land declines and the climate changes throughout the world. There is a growing sense of urgency to accelerate progress toward achieving sustainable agricultural systems that maximize production and economic return for producers, minimize environmental degradation, and adapt to changing climate. With the proposed increase, ARS will: Provide long-term, landscape level research on crop-environment interactions to enhance the productivity of crop land; improve projections of global crop yields and sustainability under different climate scenarios and environments; equip producers in the major grain production States with the most current climate change adaptation science and information needed to increase the productivity of crop lands under climate change; improve plants for maximum productivity with minimum inputs (i.e., water, nitrogen, and phosphorus) and increased tolerance to environmental stress; and improve water quantity and quality for agriculture.

Drought-related reductions in agricultural productivity have profound effects on regional food security and global agricultural commodity markets. Over the past year, ARS scientists have developed remote sensing tools to more quickly and accurately detect agricultural drought and mitigate its impacts.

- Crop Protection -- $15,212,000

Management of plant pathogenic microbes and nematodes that live in soil is critically important to the production of agronomic and horticultural crops. For more than 50 years, many diseases caused by these pathogens have been managed with chemical biocides and soil fumigants, such as methyl bromide. With the banning of methyl bromide for soil fumigation and the use of synthetic pesticides under greater regulatory scrutiny, new soilborne disease problems have emerged. With the proposed increase, the agency will enhance plant health by providing additional management tools for soilborne plant pathogenic microbes and nematodes. In the long-term, this will result in stable microbial communities resistant to the establishment or persistence of soilborne plant pathogens.

Invasive weeds, arthropods, and plant pathogens cost billions of dollars in crop losses and threaten our food supply. Pest control continues to depend heavily on chemical controls (i.e., herbicides, insecticides, fungicides, and nematodes). With the proposed increase, ARS will develop improved integrated pest management approaches (e.g., biological controls, host resistance, and new therapeutics) which reduce or replace chemical-based strategies.

Small fruit and nursery crops currently face significant losses from endemic pathogens including powdery mildew, grey mold, and *Botrytis*, a fungal disease that assaults wine grapes. Potatoes also face new plant pathogens. Recently, a resurgence of stripe rust, (also known as "yellow rust") has caused havoc to wheat crops. With the proposed increase, ARS will improve disease management of small fruit and nursery crops, potatoes, and wheat.

Ug99 is a highly virulent form of wheat stem rust which was discovered in East Africa. ARS scientists have strengthened protection of the U.S. wheat crop from this disease, through identification of wheat genes for resistance, introgression of the genes into wheat cultivars, and development of diagnostic tools for detection and monitoring of the fungus.

Sclerotinia is a serious disease that affects many oilseed, legume, and other broad leaf crops including canola, dry edible beans, soybeans, sunflowers, peas, lentils, and chickpeas. The disease is very difficult to control or minimize. With the proposed increase, the agency will develop a comprehensive genomics/bioinformatics centered germplasm improvement approach which will target *Sclerotinia* and other important fungal pathogens.

- Food Safety -- $5,239,000

  Foodborne outbreaks remain a major cause of morbidity, mortality, and economic devastation. In 2011, the Centers for Disease Control and Prevention released new estimates -- 47.8 million illnesses and 3,037 deaths caused by contaminated food consumed in the U.S. Further, the annual cost/burden in the U.S. is estimated at $152 billion. With the proposed increase, ARS will identify and analyze specific intervention strategies through the food production chain. Also, the agency will evaluate alternatives to antibiotics, and the role of management practices and the environment on the prevalence of antimicrobial resistance and emerging pathogens in food animals.

As a participant in one of the National Institute of Food and Agriculture's (NIFA) CAPs (Coordinated Agricultural Projects), ARS is educating producers, processors, and food handlers on safe handling and preparation of food, and developing strategies to reduce food contamination.

- Livestock Protection -- $4,121,000

One of the keys to meeting the demands of a growing population will be ensuring the health of livestock and preventing public health risks, such as antibiotic resistance. The increase in antibiotic resistance among bacterial pathogens is believed due, in part, to the sub-therapeutic use of antibiotics in animal feed as growth promoters. Concerns over antibiotic resistance are driving policies to restrict their use on farm animals. The availability of alternative strategies are needed to prevent and treat animal diseases on the farm. With the proposed increase, ARS will develop alternatives to antibiotics to prevent and treat pathogens affecting poultry and emerging diseases affecting farm animals.

ARS scientists and their university partners have discovered a genetic marker for reduced susceptibility in pigs to porcine reproductive respiratory syndrome (PRRS), the most economically significant disease in pigs. These results are expected to greatly benefit the swine industry by enabling geneticists to develop plans for marker-assisted selection of pigs with improved response to PRRS.

- Livestock Production -- $4,012,000

  World hunger is a major threat to global stability. Population increases over the next 40 years are projected to occur most rapidly in regions that are currently the most food stressed. Improving animal productivity is critical to meeting the demands of a growing population. Significant advances can be made through research to improve feed use efficiency by optimizing feed inputs and reducing outputs (i.e., animal waste). With the proposed increase, ARS will develop production systems utilizing improved germplasm to increase the efficiency of nutrient utilization of livestock, poultry, and aquatic animal production systems.

- Crop Production -- $3,787,000

  Floral and nursery crops constitute the third largest value farm crop in the United States. It is a multi-billion dollar segment of the U.S. economy, representing about 15 percent of total U.S. crop receipts. Improved product quality, more effective pest/disease control, and reduced reliance on chemicals is needed. With the proposed increase, ARS will enhance technologies to strengthen the floriculture and nursery crop industry.

Genetic resources are the foundation of our agricultural future. The U.S. National Plant Germplasm System's (NPGS) genebanks contain the hidden and new genes that can provide the basis for improving the quantity/quality of our crops. With the proposed increase, the agency will expand its capacity to acquire, distribute, and safeguard valuable germplasm for use by current and future researchers, both public and private, to serve future generations.

During the past five years, NPGS' genebanks have added more than 70,000 new samples and more than 2,000 new plant species to their collections, bringing the total to more than 546,000 samples of more than 14,300 plant species being conserved.

- Human Nutrition -- $2,887,000

  Obesity is at a record level in the Nation. Heart disease remains the number one cause of death, diabetes rates are increasing, and cancer incidence remains high. All of these conditions are linked in part to diet and nutrition. Additional information is needed which addresses the complexity of the food system and the nutritive and non-nutritive components that is provided. To implement Federal food and nutrition policy, the food surveillance program needs to develop new tools and databases. With the proposed increase, ARS will strengthen the food composition database to track selected foods and nutrients of concern to public health. Also, the agency will enhance nutrition surveillance capability by linking USDA/ARS food consumption survey data with Federal dietary policy guidance.

- Library and Information Services -- $1,500,000

  The National Agricultural Library (NAL) is the largest and most accessible agricultural research library in the world. NAL's specialized information services provide Internet access to comprehensive and essential information resources focusing on specific aspects of agricultural subjects. In addition to general reference services, the Library provides access to key digital information. With the proposed increase, NAL will enhance its capacity to provide researchers and scientists with important information on production inputs, sustainability, carbon sequestration and greenhouse gas emissions, tillage, and conservation program benefits that will enable the development of agricultural production and processing systems that optimize the efficient use of resources with minimal environmental impacts.

Proposed Increase for Repair and Maintenance

ARS' 2013 budget request proposes $3,000,000 for the repair and maintenance (R&M) of its laboratories and facilities to help sustain the functional capacity of these essential assets. The backlog of the agency's R&M maintenance needs now exceeds $250 million and continues to grow. With the proposed increase, the agency will address specific R&M needs, such as the replacement of air handling units, boilers, chillers, etc., that have reached the end of their service life.

Proposed Research Program Reductions

The proposed program increases will be financed in large part from a reduction of $20,082,000 in ongoing extramural research projects, and from the reallocation of $50,410,000 in existing resources.

The proposed reductions will necessitate the closure of six of ARS' laboratories – in Booneville, Arkansas; Orono, Maine; Beltsville, Maryland; East Lansing, Michigan; Columbia, Missouri; and Wyndmoor, Pennsylvania. Their resources will be reallocated to priority research at other existing ARS laboratories to enhance priority research.

Closing

In closing, I want to underscore the importance of the research that ARS conducts. Earlier, I highlighted just a few examples of some of the agency's research. Much more is needed.

Today, more than ever, there is an urgent need for enhancing and sustaining the capacity for agricultural production and food security. The world's population and food demands are continuing to grow. World hunger and malnutrition are major threats to global security at a time when climates are changing and land, water, and other natural resources are less available for food and other agricultural production. Agricultural yields will not keep pace with needs and may even fall without improved crops and livestock. The enhanced and sustained productivity needed will take place only with greater agricultural research investments that produce the needed technological advances. Also, for both the near and long term, such research investments will importantly undergird and serve to maintain the strong agriculture and biobased economy the U.S. enjoys today.

Mr. Chairman, this concludes my statement of ARS' budget recommendations for 2013. I will be happy to answer any questions that the Subcommittee may have.

ECONOMIC RESEARCH SERVICE

Statement of Dr. Mary Bohman, Administrator
Before the Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

Mr. Chairman and members of the Subcommittee, I appreciate this opportunity to present the Economic Research Service's (ERS) budget recommendations for 2013.

The mission of ERS is to inform and enhance public and private decision making on a broad range of economic and policy issues related to agriculture, food, the environment, and rural development. Activities to support this mission involve research and development of economic and statistical indicators including, but not limited to, global agricultural market conditions, trade restrictions, agribusiness concentration, farm business and household income, farm and retail food prices, food borne illnesses, food labeling, nutrition, food assistance programs, agrichemical usage, livestock waste management, conservation, genetic diversity, technology transfer, and rural employment.

The President's 2013 budget request for ERS's research programs is $77,397,000, which represents a net decrease of $326,000 from the Agency's 2012 funding level. The budget we are proposing reflects the difficult choices we need to make to control funding while still supporting agricultural research investments that are critical to long-term economic growth and job creation.

Funding is requested to continue ERS's highest priority core programs, including the following:

- Research exploring how investments in rural people, businesses, and communities affect the capacity of rural economies to prosper in the new and changing global marketplace;
- Research on economic issues related to developing natural resource policies and programs that respond to the need to protect the environment and the challenges of climate change while enhancing agricultural competitiveness;

- Research and market outlook on production agriculture, domestic and international markets, trade, and Federal farm policies to understand the U.S. food and agriculture sector's performance in the context of increasingly globalized markets; and
- Research to evaluate the Nation's food and nutrition assistance programs, to study the relationships among the many factors that influence food choices and health outcomes, including obesity, and to enhance methodologies for valuing societal benefits associated with reducing food safety risks.

The funding request also includes program reductions related to cooperative agreements and collaborations and environmental services.

ERS shapes its research program and products principally to serve key decisionmakers who routinely make or influence public policy and program decisions. This clientele includes White House and USDA policy officials and program administrators/managers; the U.S. Congress; other Federal agencies and State and local government officials; and domestic and international agricultural, environmental, consumer, and other public organizations, including farm and industry groups interested in public policy issues.

The agency's research program is designed to both anticipate and respond to decisionmakers' information needs through direct analyses and the development of analytic methods and supporting data. In FY 2012, ERS is undertaking a strategic planning process to define core research priorities, establish communications priorities to raise visibility, and develop a civil rights strategy.

ERS conducts research on specific topics at the request of Congress and USDA policy officials to assess the socio-economic consequences of public policies, regulations, and programs. These studies build on the Agency's analytic methods, data resources, and highly skilled staff. Recent examples of research conducted at the request of our customers include analysis of farm and energy programs, food access, and child nutrition.

For example, ERS conducted a study of the conversion of native grasslands to crop production in response to a request in the Manager's Report accompanying H.R. 2419, the Food, Conservation, and Energy Act of 2008. In 2011, ERS produced and published a report that was prepared in consultation with the Farm Service Agency (FSA), Natural Resources Conservation Service (NRCS), and Risk Management Agency (RMA). The research found that a 5-year ban on crop insurance purchase for converted grassland could slow—but is unlikely to stop—grassland to cropland conversion, and that the incentives provided by crop insurance, disaster assistance, and marketing loan programs increased cropland acreage by about 2.9 percent between 1998 and 2007.

The House Report 111-181 accompanying H.R. 2997, the 2010 Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, requested that ERS, in conjunction with the Office of the Chief Economist, conduct a study of land-use changes for renewable fuels and feedstocks used to produce them. The study's report, published on the ERS website in 2011, summarizes the current state of knowledge of the drivers of land-use change and describes the analytic methods used to estimate the impact of biofuel feedstock production on land use.

The Food, Conservation, and Energy Act of 2008 eliminates direct and countercyclical payments (DCP) and average crop revenue election program payments to farms with 10 or fewer base acres. A 2011 study conducted for FSA and published on the ERS website found that Federal budgetary savings from the provision are small. The effect of the provision varies among U.S. regions, with a larger portion of ineligible farms found on or near the East Coast.

Food Deserts

In 2011, ERS expanded a previous congressionally mandated study of food deserts—areas with limited access to affordable and nutritious food—by mapping areas across the country where low-income residents do not have easy access to a grocery store. The resulting *USDA Food Desert Locator* is an Internet-based mapping tool that pinpoints the location of food deserts nationwide. It also provides data on population characteristics of census tracts designated as food deserts. The Locator tool to identify underserved communities for new store locations and health and nutrition researchers use it to investigate the impact of food access and the food environment on food choices and health outcomes.

Healthy, Hunger-Free Kids

ERS conducted an assessment for the Food and Nutrition Service (FNS) of the benefits and costs of regulatory action to implement the Healthy, Hunger-Free Kids Act of 2010. Under the Act, Congress directed USDA to take regulatory action regarding the pricing and nutritional quality for USDA school meals, as well as foods and beverages sold at school in competition with USDA meals (Sections 205, 206 and 208 of the Act). FNS asked ERS for analysis that would inform its development of the regulatory impact statements that would accompany the regulations. The ERS research team examined school meal price and participation data, as well as competitive food revenues under the existing and proposed regulatory conditions. ERS briefed the USDA Child Nutrition Reauthorization Regulatory Clearance Group on its findings and was subsequently asked to brief officials from the Office of Management and Budget (OMB). ERS's core program provided the expertise and data resources necessary to complete an analysis that met FNS's needs under tight deadlines.

The previous examples illustrate how ERS deploys its research expertise to carry out specific studies. Our research program also anticipates the information needs of decisionmakers by providing innovative economic and social science research on important issues of the day. The examples that follow document how customers and stakeholders in USDA, Congress, related government agencies, and the public use ERS analysis and data to make decisions.

Land Use Estimates

ERS has produced estimates of land uses for over 60 years, and the *Major Land Uses* (MLU) series is the longest running, most comprehensive inventory of U.S. land uses available. ERS released the most recent estimates in 2011 in the report *Major Uses of Land, 2007.* Over the course of its long history, the MLU data have provided official land use estimates for the Economic Report of the President, the Statistical Abstract of the U.S., and various international publications (e.g., by the Organisation for Economic Co-operation and Development and the Food and Agriculture Organization of the United Nations—FAO). MLU research has also been used by the Secretary of Agriculture to address questions about the use of Federal lands for agriculture and about the conversion of farmland to housing, by USDA's Office of the Chief Economist to prepare projections of greenhouse gas emissions from agriculture for OMB, and by the Environmental Protection Agency (EPA) for greenhouse gas emission reporting purposes. Most recently, USDA used the MLU results in developing a television feature on the Future of Farming that was distributed to hundreds of TV stations in 38 States.

Other Studies

A major interagency effort by ERS and Agricultural Research Service (ARS) researchers, the ERS report *Nitrogen in Agricultural Systems: Implications for Conservation Policy* provides information on nitrogen's ability to affect the environment, examines the degree to which it is inappropriately applied for agricultural uses, and presents the pros and cons of programs and policies for improving its use. Water quality impairments from nitrogen are a hot-button issue for the EPA—it has requested three separate briefings on the report's findings. Our research findings are helping EPA evaluate State watershed implementation plans in the Chesapeake Bay watershed and elsewhere.

First released in 2011, ERS's *Atlas of Rural and Small-Town America* is an interactive mapping application providing a spatial interpretation of county-level, economic, and social conditions along four broad categories of socioeconomic factors: people, jobs, agriculture, and ERS county classifications. Since its initial release, the Atlas has been used by the Secretary of Agriculture, policymakers across USDA, other Federal agencies, the research and practitioner community, and the public at large. The Department of Housing and Urban Development (HUD) requires that the Atlas be used by applicants to its Rural Innovation Fund grants program. The Atlas has also recently been used by the Federal Highway Administration for a project developing performance measures for rural access transportation.

Monitoring Financial Health

ERS has a leading role in monitoring the financial health of the farm sector, including the performance of farm businesses and the well-being of farm households. These core statistical indicators provide guidance to policymakers, lenders, commodity organizations, farmers, and others interested in the financial status of the farm economy. ERS's farm income statistics also inform the computation of agriculture's contribution to the gross domestic product for the U.S. economy. The financial outlook for U.S. agriculture remains favorable, despite expected price declines for most major commodities in 2012. Net farm income is forecast to be $91.7 billion in 2012, down $6.3 billion (6.5 percent) from the 2011 forecast but still the second highest nominal value on record. Changes in farm business earnings are expected to vary considerably across commodities and regions, especially when compared with earnings over the past 4 years. The combination of modest increases in debt and continued increases in the value of farm real estate are the foundation of the sector's strong equity position and resiliency to fluctuations in market conditions and incomes. Much like the situation for farm income, the performance of farm real estate markets varies substantially by region and this disparity and recent historical trends are highlighted in the ERS report *Trends in U.S. Farmland Values and Ownership.*

Trade Agreements

The recent ERS report *Selected Trade Agreements and Implications for U.S. Agriculture* examines the effect on U.S. agriculture from regional trade agreements when the U.S. does not participate and when the U.S. does participate. Two recently concluded trade agreements between the Association of Southeast Asian Nations (ASEAN) countries and China and ASEAN countries and Australia/New Zealand could negatively affect U.S. exports to these countries as exports from the member countries receive preferential access. The report also measures the positive impacts on U.S. agricultural exports of implementing trade agreements between the United States and Korea, Colombia, and Panama. Findings from this research are considered the authoritative work on the impacts of these agreements for U.S. agricultural trade and have been used by the Foreign Agriculture Service (FAS), widely cited by Secretary Vilsack and the Office of the U.S. Trade Representative, and used by U.S. and Korean news media.

Additional Studies to be Funded in FY 2013

It is the intent of ERS to look beyond the immediate horizon to conduct anticipatory research, the findings of which will be available when a topic "heats up." In that regard, drivers of job creation in rural America, issues arising from debate and deliberation on the next farm bill, and the impact of globalization on U.S. agriculture motivate new and ongoing research programs that will deliver research findings in 2013 and beyond.

Understand rural job creation in innovative businesses. The 2012 Rural Establishment Innovation Survey, designed and conducted by ERS in cooperation with Washington State University, will collect information nationally on business adoption of new products, services, marketing methods, and ways of doing business. These innovations represent the true genius of America, but we know little about them from official statistics. Survey data will enable us to identify firm and community characteristics that encourage these cutting-edge practices and technologies. The information will also enable us to inform decisionmakers about the contribution of innovation in small and medium-sized businesses to competitive rural economies and job growth. The data will be available by 2013.

Design policies to mitigate population loss in rural counties. Individuals who return to the rural communities where they were raised (return migrants) are critically important to the hundreds of areas experiencing persistent population loss through outmigration. Through interviews in 21 rural communities, and in cooperation with the University of Montana, ERS is collecting information on return migrants—those who typically leave their community after high school graduation and return when they are ready to settle down and raise a family. Rather than pursuing efforts to help these communities retain high school graduates, it is becoming increasingly clear that encouraging return migration may be a more fruitful policy strategy. These data will allow ERS and other researchers to better understand the motivations of return migrants and the efficacy of strategies meant to encourage increased return migration. The data will be available in 2013.

Improve program cost effectiveness using approaches from the emerging field of behavioral economics. ERS is funding and leading a coordinated program of research applying the principles of behavioral economics. Behavioral economics suggests that the way in which choices are structured, presented, and paid for—the choice architecture—can influence an individual's decisionmaking process. Incorporating the tools of behavioral economics into research conducted at ERS will increase the efficiency of food, farm, natural resource, and rural development programs by supporting government-wide efforts to improve program integrity and innovation. In one project, ERS is evaluating a school-based incentives program designed using behavioral economics theory and its effectiveness in increasing fruit and vegetable consumption. In another, ERS is exploring how accounting for behavioral characteristics in the design of incentives may improve the performance of conservation programs and future environmental services markets.

Address the economic and environmental impacts of adaptation of U.S. agriculture to a changing climate. ERS research is assessing the ability of farmers to adapt to changes in local weather, resource conditions, and price signals by adjusting crops, rotations, and production practices. Such adaptation, using existing crop production technologies, can significantly mitigate the impacts of climate change on national agricultural markets; advancements in the development of drought-tolerant cultivars have the potential to provide additional gains in this area.

Analyze the effect on global agricultural markets of the rapid growth in, and changing course of, China's domestic agricultural support programs. Many of China's new policies are modeled on those used in developed economies, but they are implemented in a very different institutional environment. The effects of these policies will have implications for U.S. agriculture via China's influence on global commodity markets and future trade liberalization initiatives.

Improve indicators of global food security. ERS is collaborating with FAO to improve global indicators of food security. Complementing the indicators, country case studies provide a basis to assess options to measure food security. ERS analysis of food-insecure households in India focuses on how the use of different statistical methods applied to the same data can result in significantly different estimates of the global food-insecure population. The study uses data from a unique household survey conducted in India to estimate levels of household food security using different assumptions about caloric intakes.

Understand social safety net through innovative use of administrative data. ERS is undertaking the first research effort to link Supplemental Nutrition Assistance Program (SNAP) administrative records with administrative data from the State Unemployment Insurance (UI) program. The resulting data provide a unique and cost-effective resource to address questions regarding how the two programs work together to provide financial and nutrition support to households experiencing unemployment. Linkage of confidential data was achieved through ERS partnerships with research institutions and the partnerships these institutions have with data-supplying State agencies. ERS is assisting with the development of common definitions, analysis approaches, and table shells so that empirical results from participating States may be compared with one another and with results from similar research being conducted under other ERS research grants.

Fill gaps in the current understanding of food acquisition behavior. ERS, with previous financial support from FNS, is conducting a major national food survey in 2012. FoodAPS will break new ground in social science research. It will gather unique, detailed data on food acquisitions not previously available to researchers from a single source. The survey will also use administrative data from SNAP to link private and public data files to collect information on nutrient content of acquired foods and local food environments. These data will help provide answers to important food policy questions, particularly as pertain to low income households. The data will enable researchers to perform more complete analyses of household food demand, and as such they have drawn interest from other Federal statistical agencies. In addition, the combination of data collection techniques and use of data from administrative sources will result in significant cost savings.

Mr. Chairman, this concludes my statement of ERS's budget recommendations for FY 2013. I will be happy to answer any questions that the Subcommittee may have.

NATIONAL AGRICULTURAL STATISTICS SERVICE

Statement of
Dr. Cynthia Clark, Administrator
Before the Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

Mr. Chairman and members of the Subcommittee, I appreciate the opportunity to submit a statement in support of the National Agricultural Statistics Service (NASS) 2013 budget request. NASS administers the U.S. agricultural estimates program, which began at the United States Department of Agriculture (USDA) in 1863. NASS also conducts the quinquennial U.S. Census of Agriculture, first collected by the Department of Commerce in 1840. Both the agricultural estimates and the census program align with the basic mission of NASS to provide timely, accurate, and useful statistics in service to U.S. agriculture.

2013 Budget

The agency's 2013 budget request is $179.5 million. The $20.8 million increase over the 2012 appropriation is entirely attributable to operational costs necessary to conduct the 2012 Census of Agriculture. In addition, the budget proposes increases in funds for the agricultural estimates program to enhance the agency's annual county estimates. However, NASS will offset the county estimates increase through efficiencies gained in opening the National Operations Center (NOC), which streamlines many functions.

Agricultural Estimates

The hundreds of agricultural estimates reports NASS issues annually are critically important to assessing current supply and demand in agricultural commodities. Producers, agribusinesses, farm organizations, commodity groups, economists, public officials, and others use the data for decision-making. The statistics NASS collects and disseminates ensure buyers and sellers have access to the same official statistics at the same pre-announced time, making markets fair and preventing them from being influenced by "inside" information. The free flow of information minimizes price fluctuations for U.S. producers, makes commodity markets more efficient, and makes our Nation's agricultural industry more competitive. The data have become increasingly important as producers rely more on world markets for their sales.

As stated above, the 2013 budget proposes to reallocate $3.381 million from efficiencies gained through the NOC. These funds will be used to enhance the accuracy of county-level crop production statistics, which USDA programs rely upon to determine disposition of billions of dollars.

The Risk Management Agency (RMA) relies on NASS annual county estimates to administer crop insurance programs that provide U.S. farmers with a safety net against unpredictable growing conditions. For example, in the 2010 growing season the indemnity payments from RMA's Group Risk Income Protection (GRIP) and Group Risk Plan (GRP) products for corn only were $38 million (in contrast to the $3.381 million proposal). The accuracy of NASS's county estimates directly impacts the costs for the GRIP/GRP products. The accuracy balances the cost to the individual producer and the public.

The Farm Service Agency (FSA) extensively uses NASS county-level data to administer the Conservation Reserve Program, crop revenue support programs, and emergency assistance payments. Without NASS's estimates FSA would be forced to seek out other sources of data at additional cost.

By providing accurate, objective estimates NASS helps these USDA programs be both fair and transparent. NASS has implemented a probability-based sampling design, but needs the additional resources to conduct telephone and personal visits to achieve adequate response and coverage rates to generate reliable county estimates. The probability-based survey design enables NASS to compute coefficients of variation and measure the accuracy of the final published estimates.

The increased funding needed to improve county estimates is offset by cost savings NASS is achieving from centralizing processing functions at the National Operations Center and from other efficiency improvements. The following savings are expected in 2013:

1) $2.7 million in savings due to the NOC. NASS designed the National Operations Center to provide the infrastructure and centralized capacity to increase telephone data collection and to train telephone and field interviewers through a standardized training protocol.

2) $681,000 in additional savings due to the new centralized virtual environment. NASS redesigned its systems to work in the centralized virtual environment of the NOC to enhance standardization and efficiency.

Census of Agriculture

NASS is currently preparing for the 2012 Census of Agriculture, which we will mail to the Nation's farmers and ranchers in December 2012. The Census of Agriculture is taken every five years and provides comprehensive data on the agricultural sector at the national, State, and county level. The Census of Agriculture is the only source for this information on a local level and is extremely important to the agricultural community.

- Members of Congress use the wide range of data in defining farm policy and identifying issues and questions during Farm Bill debates.
- Congressional and other policymakers use the valuable demographic database for developing public policy for rural areas.
- Agricultural organizations, suppliers, handlers, processors, wholesalers and retailers use detailed county-level information to better plan their operations.

In addition to the 50 States, NASS conducts Census of Agriculture programs in Puerto Rico, Guam, and the Commonwealth of the Northern Mariana Islands. NASS makes all data available on its website.

The authority to conduct the census of agriculture was transferred to USDA in 1997. Since then, NASS has taken several steps to improve this vital data series. For example, to make responding easier and to save costs, NASS offered respondents the option of reporting electronically during the 2007 Census of Agriculture, and will do so again in the 2012 Census. To improve coverage for the 2007 Census, NASS worked with community- based organizations, American Indians tribes, and other ethnic and minority groups to increase response and thus representation, and will do so again this time. Finally, NASS listens to Congress and industry on the need for agricultural statistics in new areas; the 2012 Census of Agriculture includes an entire section on organic agriculture and will, for the first time, produce information on local foods and agro-forestry. Increasing response options, improving coverage, and meeting new needs are just a few of the successes achieved over the first censuses of agriculture conducted at USDA.

The 2013 budget includes a one-time increase of $20.8 million to conduct the 2012 Census of Agriculture, which occurs every five years. 2013 represents the greatest level of funding during the five year cycle. This increase includes the following costs:

1) Processing costs at the U.S. Census Bureau's National Processing Center ($11 million). NASS contracts with the Census Bureau's National Processing Center (NPC) in Jeffersonville, Indiana, for: labeling and mailing the initial questionnaire to all farmers and ranchers and up to two follow up reminders to those who do not respond; receiving and digitally scanning all returned forms; keying data from digital images; and transmitting the data to NASS.

2) Postage ($4.5 million). This includes the postage cost of three outgoing mailings (the initial letter to all farmers and ranchers and two reminder letters to those who have not responded) and all returned completed forms.

3) Data Collection ($5 million). After the third mailing, NASS will follow up with phone calls and personal enumeration to maximize response. Phone follow up is important to ensure that all counties have a high level of response and, in particular, to ensure that small and socially disadvantaged farms are adequately represented. Personal visits from a trained enumerator help ensure that large operations that need assistance are included in the census. Personal enumeration may also be important for Native American, minority and other populations reluctant to respond for language, lack of trust in government, or other reasons.

Major Activities of the NASS

Annual Surveys and the Census of Agriculture. The primary activity of NASS is to provide reliable data to meet the decision-making needs of the agricultural industry. The agency fulfills its mission through an annual agricultural estimates program and the quinquennial census of agriculture. Farmers, ranchers, and agribusinesses voluntarily respond to a series of nationwide surveys about crops, livestock, prices, chemical use, and other agricultural activities each year. Surveys are conducted during the growing season to measure the impact of weather, pests, and other factors on crop production. In many cases, NASS supplements crop surveys with field observations and measurements of plant counts. NASS also uses administrative data from other USDA, Federal and State agencies; data on imports and exports; and other survey data to ensure official estimates accurately represent agricultural inventories. NASS prepares estimates for over 120 crops and 45 livestock items that are published annually in more than 500 separate reports.

International Programs. NASS provides technical assistance and training to improve agricultural survey programs in other countries in cooperation with other government agencies on a cost-reimbursable basis. The NASS international program focuses on developing and emerging-market countries in Asia, Africa, Central and South America, and Eastern Europe. NASS assists countries in applying modern statistical methodology, including sample survey techniques. Accurate information about other countries is essential for successfully marketing U.S. farm products throughout the world. NASS has been an important contributor to the UN Global Strategy for Agricultural and Rural Statistics, contributing to better statistics for USDA global estimates of food supply.

Stakeholder Input. NASS annually seeks input from the public on determining priorities and improving its products and processes. It consults with customers and stakeholders through meetings of the Secretary of Agriculture's Advisory Committee on Agriculture Statistics, interaction with producers, data users meetings with agribusinesses and commodity groups, special briefings for agricultural leaders during the release of major reports, and numerous individual contacts. As a result of these activities, the agency has adjusted its agricultural estimates program and published reports, and has expanded electronic access capabilities.

NASS is a leader among Federal agencies in providing electronic access to information. All reports issued by NASS' Agricultural Statistics Board are made available to the public at a previously announced release time to ensure equal access to the information. All national statistical reports and data products, including graphics, are available on the Web, as well as in printed form, at the time they are released. Customers can electronically subscribe to NASS reports and download them in an easily accessible format using standard software. NASS also provides free Rich Site Summary (RSS) and podcast feeds to interested data users, who receive an alert or audio clip when content of interest is posted to the NASS Web site. A summary of NASS and other USDA statistical data is produced annually in USDA's *Agricultural Statistics*, available on the NASS home page, on CD-ROM disc, or in hard copy.

Collaboration with Other Agencies. NASS conducts special surveys and provides consulting services for USDA agencies, other Federal or State agencies, universities, and agricultural organizations on a cost-reimbursable basis. Consulting services include assistance with survey methodology, questionnaire and sample design, information resource management, and statistical analysis. NASS has assisted USDA agencies in programs that monitor nutrition, food safety, environmental quality, and customer satisfaction. In cooperation with State Departments of Agriculture, land-grant universities, and industry groups, NASS conducts over 200 special surveys each year covering a wide range of issues such as farm injury, nursery and horticulture, equine, farm finance, fruits and nuts, vegetables, and cropping practices.

For example, NASS conducts the Agricultural Resource Management Survey (ARMS) in collaboration with USDA's Economic Research Service. ARMS data are the primary input for the Nation's farm income statements—one of the country's principal economic indicators. These data are the basis for much of the targeted analysis conducted by USDA economists on the Farm Bill and other important issues.

NASS fills a continuing and urgent need for timely, accurate, and useful statistics on U.S. agriculture. Its data are regularly relied upon in discussions surrounding potential policies affecting agriculture. For example, NASS data were used in three recent Environmental Protection Agency (EPA) draft final rules: NASS fertilizer data were cited in "Regulation of Fuels and Fuel Additives: 2012 Renewable Fuel Standards"; Census of Agriculture data were used in "Data Requirements for Antimicrobial Pesticides"; and were used in developing "National Pollutant Discharge Elimination System (NPDES) Electronic Reporting."

An Enhanced Research Program. NASS is conducting a number of statistical and survey research projects to improve methods and techniques for collecting, processing, and disseminating agricultural data.

- Research on new computer edit procedures, once implemented, will eliminate manual editing and reduce analyst review.
- Research in small area estimation will enhance the quality of county estimates and provide users with measures of error. This project supports the increase in funding for the County Estimates Program allowing more county-level data to be published for specified crops.
- Research currently under way on statistical model-based techniques that estimate crop yield and livestock inventory will provide measures of reliability for the estimates.
- NASS's long-standing remote sensing research program is now providing data for covariates in the small area and crop yield models and producing real-time acreage and yield satellite data for acreage and production estimation in major corn and soybean States. Called the Cropland Data Layer (CDL), this tool's usability was enhanced in 2011 when NASS launched CropScape, a state-of-the art Web portal.

Through recent research, NASS developed a computer-assisted personal interview (CAPI) process utilizing a "thin client" approach for data transmission. This approach ensures security because data are not stored on computers used in the field but encrypted data is transmitted through broadband technology directly to agency computers. As a result, enumerators now use CAPI tablets to collect in-person interview data in the field. Using the tablets is almost cost-neutral because it eliminates paper questionnaires and the associated mailing, keying, and handling. It also facilitates going directly to computer based editing.

The growing diversity and specialization of the Nation's farm operations make producing accurate agricultural statistics more complicated. Research is under way to use CDL to redesign the area frame stratification procedures and to implement an improved area sample design in order to help NASS maintain good coverage of diverse agricultural producers and diverse commodities.

NASS is keeping pace with an increasingly complex agricultural industry to achieve cost savings through re-engineered processes. NASS has enhanced its research program; increased efficiencies from opening the NOC; developed new statistical and survey methodology; expanded modes of data collection, including electronic data reporting; and exploited computer intensive processing technology.

This concludes my statement, Mr. Chairman. Thank you for the opportunity to submit this statement for the record.

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Statement of Dr. Chavonda Jacobs-Young, Acting Director
Before the Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

Mr. Chairman and Members of the Subcommittee, I appreciate the opportunity to present the President's 2013 budget for the National Institute of Food and Agriculture (NIFA), one of the four agencies in the Research, Education, and Economics (REE) mission area of the United States Department of Agriculture (USDA).

Anniversary

As USDA commemorates the 150th anniversary of the founding of the Department, the land grant universities also are celebrating the 150th anniversary of the First Morrill Act. In 1862, the First Morrill Act was passed and it laid the framework for public higher education provided by the land grant university system. The land grant universities are planning activities during the year to honor their accomplishments and emphasize their commitment to research, education, and extension for the future.

NIFA along with our university partners and other stakeholders will continue to work together to capitalize on past successes, and strive for new discoveries that advance knowledge for agriculture, the environment, human health and communities. Together we can and will be responsive to the national and global challenges facing agriculture today and in the future.

NIFA Institutes

As previously reported in its 2010 reorganization, NIFA established four Institutes to fund outcome-driven programs that address the science priorities that will maintain the preeminent world position of U.S. agriculture. The Institutes continue to provide leadership and administer Federal assistance programs which support focus areas of bioenergy, climate and environment; food production and sustainability; food safety and nutrition; and youth, family, and community. The Institutes are bringing together experts in various disciplines and functions to form multidisciplinary, outcome-based teams that focus on achieving core stakeholder needs while enhancing the quality, relevancy, and performance of programs.

Proposal

The NIFA 2013 budget proposal for discretionary funding is $1.24 billion. This represents an increase of $36.78 million or approximately 3.05 percent above the 2012 Consolidated Appropriation discretionary funding amount of $1.21 billion. NIFA's budget includes the proposed consolidation of programs, as requested by Congress, and the redirection of funds to support higher priority activities. Overall, the proposal promotes efficiency in program management for greater focus and impact of NIFA programs.

NIFA works in partnership with the land grant university system, other colleges and universities, and public and private research and education organizations to support exemplary research, education, and extension that address many national issues from agricultural production, nutrition, and food safety to energy independence and the sustainability of our natural resources. These partnerships result in a breadth of expertise that can quickly and efficiently deliver critical knowledge through innovative systems.

The 2013 budget request continues to align funding and performance objectives with the USDA strategic goals and the REE Action Plan. The agency defines distinct performance criteria, including strategic objectives and key outcomes, with identified annual targets. As part of an integrated budget and performance process, NIFA developed a plan for conducting periodic portfolio reviews by external experts. We completed an external review of all major programs, and are working to implement the review recommendations in planning and managing programs. We continue to conduct external reviews on a rotating basis.

Agriculture and Food Research Initiative (AFRI)

The President's 2013 budget proposes $325 million for AFRI. AFRI is NIFA's core competitive grant program for research, education, and extension. The program provides funding for projects that address critical issues in U.S. agriculture in the areas of bioenergy, global climate change, global food security, nutrition and health, food safety, foundational programs, and NIFA fellowships.

Bioenergy: NIFA supports the comprehensive plan to invest in alternative and renewable energy. A recent award to South Dakota State University will design a feedstock production system for bioenergy production that optimizes energy production and maintenance of ecological series. A project at Fort Valley State University (Georgia) will devise sustainable production systems of four feedstocks to (1) develop best management practices for a sustainable biomass practices/ production system, (2) reduce greenhouse gas emission, (3) promote carbon sequestration, (4) improve soil quality, and (5) reduce the rate of nitrogen fertilization. Both of these projects are funded under AFRI's sustainable bioenergy challenge area and support the development of regional systems for sustainable production of bioenergy and biobased products that will assist rural communities to create wealth and thrive economically.

In 2013, bioenergy funding will support regional projects that link research for sustainable biomass production, logistics of handling feedstocks for biofuels, and education programs to create the needed skilled workforce. Ongoing research will focus on enhanced value co-products and crop protection, land-use changes resulting from feedstock production and conversion, and identification of socioeconomic impacts of biofuels in rural communities in order to enhance sustainable rural economies. Funding will be used for genomics work that optimizes dedicated biofuels feedstocks. NIFA also will support one new multi-State regional project to catalyze development of sustainable bioenergy production systems in a region of the country not covered by previous multi-State regional awards.

Global Climate Change: AFRI will support activities on adaptive capacities and mitigation potentials of agricultural and natural resource systems to climate variables such as drought, limits on irrigation water supplies, floods, and temperature extremes. Efforts will help farmers, ranchers, land owners, and rural communities adapt to climate variation, reduce greenhouse gas emission, and increase carbon sequestration.

Examples of activities funded under global climate change include a coordinated agricultural project (CAP) award to the University of Idaho. The project will focus on enhancing the sustainability of Inland Pacific Northwest grain production systems under ongoing and projected climate change while contributing to climate change mitigation. In a CAP award to the University of Florida, scientists will work to create and disseminate the knowledge necessary to enable landowners to harness planted pine forest productivity to mitigate atmospheric carbon dioxide, use nitrogen and other fertilizer inputs more efficiently, and adapt their forest management to increase resilience in the face of changing climate.

Global Food Security: In 2013, programs will address pressing issues in food production that contribute to national and global food security while helping America promote sustainable agriculture and agricultural exports. Funding will support projects to improve the understanding of genomic information and breeding to develop new and improved animal breeds and crop cultivars for increased food production and quality. Efforts will target activities that address the programs of U.S. agriculture, create mutual benefits domestically and abroad, and allow new opportunities for inter-departmental initiatives as appropriate.

A recent award to the University of California will use an integrated plan of research, education, and extension to address late blight, a plant disease which is caused by the fungus-like microbe called *Phytophthora infestans*. The plan includes developing diagnostic tools, improving resistant plants through breeding and biotechnology, and using systems to provide improved management guidelines to growers.

Nutrition and Health: AFRI will support nutrition and health projects that focus on children and youth ages 2-19. Funding will be used to identify the behavioral factors that influence obesity; develop valid behavioral and environmental instruments that measure progress in obesity prevention efforts; and, fund nutrition research to develop and increase consumption of healthy foods that are low in energy (fats and sugars) and salt, and high in nutrient density and that are appealing to children.

A NIFA grant awarded to Oregon State University (OSU) will focus on obesity prevention in rural children. OSU's first goal is to understand the rural environment contributing to the incidence of obesity through partnering with Extension Services in six Western States to engage rural residents in community-based participatory research efforts. OSU's second goal is to plan, implement, and evaluate a multi-level intervention targeting the rural home, school, and community behavioral settings to promote healthful eating and increase physical activity, with the result of improving the body mass index among rural children ages 5-8.

Food Safety: NIFA is committed to advancing the safety of the U.S. food supply through new and improved rapid detection methods, pre- and post-harvest epidemiological studies, improved food harvesting, and advanced processing technologies. NIFA will fund critical environmental and ecological research to improve our understanding of disease-causing microorganisms, and of naturally occurring contaminants in meat, poultry, seafood, and fresh fruits and vegetables. AFRI Food Safety funds also will address efforts to minimize antibiotic resistance transmission through the food chain, and microbial food safety hazards of fresh and fresh-cut fruits and vegetables.

Human noroviruses are the most common cause of food borne disease (FBD). In a CAP award to North Carolina State University, a research team will use an integrated, multidisciplinary approach to develop improved tools, skills, and capacity to study foodborne viruses. They also will identify risk factors, and develop management strategies for reducing contamination in pre- and post-harvest environments.

Foundational Programs: NIFA has committed 30 percent of AFRI funding to foundational programs. AFRI funding will allow substantive research investments in (1) Plant Health and Production and Plant Products; (2) Animal Health and Production and Animal Products; (3) Food Safety, Nutrition, and Health; (4) Renewable Energy, Natural Resources, and Environment; (5) Agriculture Systems and Technology; and (6) Agriculture Economics and Rural Communities.

NIFA Fellowships: Funding will expand support for graduate and post-graduate education through awards made to individuals pursuing research careers in NIFA research priority areas. Under AFRI, NIFA recently funded fellowship awards to support 54 students from 32 universities in 23 States and the District of Columbia.

Crop Protection

NIFA proposes to consolidate funding for the special research programs Expert Integrated Pest Management (IPM) Decision Support System, IPM and Biological Control, Minor Crop Pest Management, Pest Management Alternatives; the extension program Smith-Lever 3(d) Pest

Management; and the integrated program Regional Pest Management Centers into a single integrated program, called Crop Protection. This consolidation will enhance NIFA's ability to support research, education, and extension activities needed to ensure food security and respond to other major societal challenges.

In 2013, $29 million in funding will support IPM projects that respond to pest management challenges with coordinated regional and national research education, and extension programs and promote further development and use of IPM approaches. It will foster regional and national team building efforts, communication networks, and enhanced stakeholder participation. The program will focus on plant protection tactics and tools, diversified IPM systems, enhancing agricultural biosecurity, IPM for a sustainable society, and development of the next generation of IPM scientists.

Grants for Insular Areas

NIFA also proposes to consolidate funding for the higher education programs Resident Instruction Grants for Insular Areas, and Distance Education Grants for Insular Areas into a single higher education program called Grants for Insular Areas. The proposed $1.7 million will enhance resident instruction, curriculum, and teaching programs in food and agricultural sciences located in the insular areas of Puerto Rico, the U.S Virgin Islands, Guam, American Samoa, the Northern Mariana Islands, Micronesia, the Marshall Islands or the Republic of Palau. Additionally, the program will support activities to strengthen the capacity of institutions in these insular areas to carry out collaborative distance food and agricultural education programs using digital network technologies.

Sustainable Agriculture

In 2013, NIFA proposes an increase of $3.5 million for a new State-Federal matching program which will leverage State and/or private funds and build the long-term capacity to guide the evolution of American agriculture to a more highly productive, sustainable system. Funding will support activities that (1) integrate sustainable agriculture in all State research, extension and education projects; (2) support new research at sustainable agriculture centers; (3) build stronger Statewide farmer-to-farmer networks and outreach and technical assistance strategies; and (4) incorporate sustainable agriculture studies and curriculum in undergraduate and graduate degree programs.

Hispanic-Serving Agricultural Colleges and Universities Endowment Fund

The Hispanic/Latino community is the fastest growing sector of the American population. In 2013, the NIFA budget requests $10 million to establish an endowment fund for the Hispanic-Serving Agricultural Colleges and Universities (HSACU). This investment is needed to assist HSACU compete effectively for NIFA competitive grants. Support for this endowment fund will help in the development of a skilled and marketable Hispanic student population for employment in the food and agriculture sector.

Education Programs

NIFA continues to support activities to make science, technology, engineering, and mathematics (STEM) a national priority. Funded activities also will support training to help create a vast pool of graduates interested in careers in the biotechnology, food systems, economics and other fields of agriculture. For the most recent award cycle, NIFA supported under the Graduate Fellowships Grant program 20 master fellows and 46 doctoral fellows. Under the Multicultural Scholars program, an estimated 58 scholars will be supported. In 2013, NIFA is requesting an increase of $1.8 million for the Graduate Fellowships Grant; Institution Challenge Grants; Multicultural Scholars; and Secondary Education, Two-Year Postsecondary Education and Agriculture in the K-12 Classroom programs.

Extension Programs

The 2013 budget proposes an increase totaling $1.4 million in extension activities. Funding is proposed for the New Technologies for Agricultural Extension Program to support eXtension (pronounced e-extension), a national web-based information and delivery system. With over 19 million page views and 9 million visits to the public website, the Cooperative Extension System is reaching new and different audiences as well as serving traditional clientele better. Funding for the Children, Youth, and Families at Risk Program will be used to improve the quantity and quality of comprehensive community-based programs for them. NIFA also proposed funding to assist forest and range landowners and managers in making resource management decisions under the Renewable Resources Extension Act Program.

Other Programs

With the number of grant proposals received increasing by over 30 percent from 4,875 in 2010 to 6,360 in 2011; NIFA's budget proposal includes an increase of $3 million in Federal administration costs to support modernization of our grant applications systems and process. It is anticipated that these improvements will save proposal review time in the grant review process.

We will continue funding for most other programs, including formula funded programs and minority-serving programs.

Stakeholder Input

During the past year, NIFA listened to input from stakeholder groups and individuals. In February, NIFA held a meeting to obtain stakeholder input and comments for consideration in developing AFRI solicitations. We also will host a series of seven webinars during March and April to focus on the AFRI Challenge Areas, Foundational Program, and Fellowships. On March 6, representatives from the National Association of University Forest Research Programs (NAUFRP) visited NIFA. NAUFRP represents 69 of the nation's premiere universities and their related forestry research, education, and extension scientists. The meeting was an opportunity to gather stakeholder input, and to establish new or strengthen existing partnerships. NIFA is scheduled to meet on March 29 and plans to schedule additional meetings with our partners regarding our current pest programs and the proposed new Crop Protection program. In addition, NIFA leaders visited a select number of institutions to listen to the concerns of faculty, deans, administrative units, scientific organizations, and/or small businesses.

Conclusion

In a time of limited financial resources, this budget proposal streamlines NIFA's portfolio of programs to maximize our research, education, and extension investments in America's agricultural future. It supports the modernization of our business processes for efficiency in program delivery. It encourages the development of the next generation of the best and brightest scientists. Lastly, this proposal addresses concerns expressed by our stakeholders, and strives to make a difference in solving emerging problems in the food, agricultural, and human sciences.

Mr. Chairman, this concludes my statement. I will be glad to answer any questions the Subcommittee may have.

GENOMICS AND GENETICS

Mr. KINGSTON. It is great to be with you, and we certainly appreciate USDA's leadership on reorganization and the fact that you are reducing your travel budget and looking at offices and looking at missions. And I think that this is something that our town is going to have more and more of.

This morning I was with a number of people in the defense industry saying that, you know, there is no way you can cut the budget without cutting the budget. And everybody believes that, oh, it is not us, not our department. But I think that USDA has taken a great leadership role, and we certainly appreciate it.

In your department, which you have a lot of support of on this committee, we are very excited about the science, and I feel like there is so much motivation at this point to capitalize on all the technologies, on all the knowledge that is out there. And one of the things that I wanted to ask you about: As we attack the problems of pests and invasive species and less water and less land, you know, what is the promise of genetically modified products and the genomics that you are doing?

And if you could tell me what the difference is in terms of maybe—your testimony talked about genomics and genetics, and if you could just give me the layman's term, the distinction.

Dr. WOTEKI. Certainly, Mr. Chairman.

We also are very excited about the science. We have tools that we have never had before, including genetics and genomics. And we also have access to instrumentation that we have never had before that allows us to work at the molecular level, as well as satellite technology that is informing a lot of our programs in the survey area as well as in understanding at the landscape level the interrelationships of agriculture and natural systems. So it is a really exciting time in the sciences.

I agree with you that with the prospect of having to increase agricultural production in the range of 70 to 100 percent over this next generation that we have to be using all of the tools in our science toolbox in order to increase agricultural production and to do it in a way that is going to be long-term sustainable and that will actually have to face up to the reality of limited water available for agriculture.

The research that is undertaken in our intramural programs in the Agricultural Research Service or that are supported at universities through the NIFA programs are taking advantage of the breakthroughs in molecular biology and genetics and genomics.

The Agricultural Research Service plays a very important role in that by maintaining collections of germplasm, seeds and other material that can be propagated. Inside existing plants, from here in the U.S., as well as from around the world, are genes that will be able to convey resistance to pests. They will have quality traits that are desirable to breed into or to genetically engineer into crops. They have the promise of being able to inform our programs that are going to be developing drought-resistant crops, as well.

So disease, pest resistance, drought, as well as resilience under flooding conditions, and quality attributes are all of the aspects of our genetics and genomics program that we are looking to identify.

Having identified them then, you can use the new genetic information for two purposes. You can use that information in classical breeding to produce crops using the traditional types of cross-breeding and hybridization, but it is just better informed by knowing where those traits are. And so that is one technique. And the second technique we prefer to call genetic engineering, because it is informed by the information gained about where the desirable genes are. And then, using new techniques, you can insert those genes using an engineering approach into the specific crop or, in some cases, animals that you want to improve.

That is the simple distinction between traditional, classical breeding that can be informed by this genetics and genomics fundamental information that is being developed out of our programs, and genetic engineering that is very purposefully taking genes that can be inserted into the same crop or they can be inserted across species lines, as has occurred in some crops, as well as in some of the animals that are being developed for food purposes for the future.

Mr. KINGSTON. Well, we will have more questions along that line. And I am out of time, so, Mr. Farr?

Mr. FARR. Thank you very much, Mr. Chairman. I would like to associate myself with the remarks on the importance of the science.

I would hope that you might not answer this today but look into it for me. California is proposing an initiative. Essentially, the anti-GMO crowd has been able to successfully get an initiative on the ballot. It is a labeling initiative. And I would just like your assessment of what that—have somebody take a look at the wording and give us an assessment of what that might do to the research that you are doing in California labs, both State and Federal labs.

ARS LABORATORY CONSTRUCTION AND BUILDINGS REPORT

Speaking of labs, our committee asked for a—essentially to come up with an assessment and prioritization of lab construction and new buildings. When are we going to get that report?

Dr. WOTEKI. We actually have that report in clearance currently. We are expecting that we should be able to deliver it to you in about the next 6 weeks.

Mr. FARR. And in that process, does it work out a way where you can prioritize what you need to invest in, in which labs you need, or to expand or remodel or build anew?

Dr. WOTEKI. Yes, it does, sir, along two dimensions. One dimension is related to the current status of the facility, the physical status of the facility, and the second is by the priority of the programs that are being conducted within those facilities. So, in essence, it gives you a scoring for all of the laboratories based on those two criteria and then proposes over the next 5 years, by priority areas, which laboratories would be proposed for renovation or new construction.

Mr. FARR. Oh, terrific. Because on those merits, the Salinas lab ought to be on top. I know in competitive we will win. So thank you for using that objective procedure.

Also on that, I understand that in lab closures you estimated a cost of closing labs at $10 million to $12 million, yet there is nothing in the budget that shows where that money is coming from. Where will the funds for closure come from?

PROPOSED LABORATORY CLOSURES

Dr. WOTEKI. Well, whenever the Agricultural Research Service closes a laboratory site, there are costs associated with the shutting down of the facility. Those are one-time costs, and they are spread out across all of the programs within the agency.

[The information follows:]

The President's FY 2013 Budget for ARS proposes to close six ARS laboratories and reallocate the associated resources to other existing ARS laboratories to enhance priority research. The one-time cost to accommodate impacted personnel and the disposition of real property is estimated to range from $10–$12 million. To obtain the necessary funds on a one-time basis, ARS would assess the funding of remaining research programs.

Mr. FARR. So you rob from Peter to pay Paul. It would be interesting, though, if you could show us where you are going to—because it is going to happen as you downsize a lot. So the committee would be interested in where that money might be coming from.

INTEGRATED PEST MANAGEMENT

I have a whole bunch of questions about Interregional Research Project #4 IR–4. The President's budget—USDA's National Institute of Food and Ag—contains a proposal that greatly concerns the specialty crop growers, and that is most of California agriculture. The proposal would consolidate several existing programs—five IPM programs and the current IR–4 program—into a new program called Crop Protection.

Although USDA's explanatory notes put a great deal of emphasis on the IPM programs, they are not even mentioning the IR–4 mission, which is facilitating the registration of safe and effective chemical and biological pesticides for specialty crop and minor uses. I am concerned about this collaboration or combination because my district is the largest specialty crop production district in the entire United States. In fact, Mr. Chairman, I was finding out the other day that if just my county of Monterey, if you compared it to the rest of the States, would rank 26th in the Nation, right behind New York and ahead of Arizona—just one county in California.

My growers think that this proposal is going to lose the identity of the IR–4 mission and will be a death sentence for it. So I want to know how you intend to preserve the integrity of the established IR–4 program, its infrastructure and its scientific expertise?

Dr. WOTEKI. Mr. Farr, we understand your concerns about the IR–4 program. A representative group was in to meet with me just in the last couple of weeks, and they expressed their concerns as well.

We recognize that it has been very important for facilitating the registration of chemicals that are used in specialty crops. And the proposal in the NIFA budget to consolidate several integrated pest-management projects and programs into one integrated program was undertaken under authority that was provided in the 2012 appropriations and also for the purpose of——

Mr. FARR. You didn't answer my question, though. How are you going to preserve the integrity of the program?

Dr. WOTEKI. I am getting there.

Mr. FARR. Well, my time has expired.

Mr. KINGSTON. The gentleman, without objection, has 2 more minutes.

Dr. WOTEKI. Thank you.

So we are proposing that NIFA, for purposes of more efficient management of these programs, integrate them. So I wanted to turn to Dr. Jacobs-Young and ask her to provide details to you about how they would recognize the importance of IR–4 and maintain the importance of that program.

Ms. JACOBS-YOUNG. Thank you.

So we also recognize the importance of integrated pest management, and you will agree that over the last 40 years NIFA and its predecessor agencies have really supported a revolutionary activity that we have seen in integrated pest management. And we have also seen growth in this area. However——

Mr. FARR. Just tell me how you are going to preserve it, not how much you love it.

Dr. JACOBS-YOUNG. So we love it, and we are going to enter into a consultative process which begins next Thursday in Memphis, Tennessee, where we will meet with the stakeholders from all of our integrated pest-management activities. And they will have an opportunity to work with the agency to build the new program, the new $29 million program.

Mr. FARR. I don't think that answers the question. The answer is, you don't know yet.

Dr. JACOBS-YOUNG. Absolutely. We don't want to be presumptive and build it as an agency. We want to build it with the input and collaboration of our stakeholders.

Mr. FARR. Yeah, well, I will have some more questions next time around.

Thank you, Mr. Chairman.

Mr. KINGSTON. Well, if the gentleman will yield on that, because that is something that I think all of our Members are being asked about.

And one of the questions is that your proposal seems to be coming before your meeting in Memphis, and it would appear that you would have already had the input from the stakeholders before you put it into the budget.

Dr. JACOBS-YOUNG. The consolidation that we have requested this year was also requested last year, in fiscal year 2012, and so it is not new.

Mr. KINGSTON. Okay.

Dr. JACOBS-YOUNG. And we have been consulting with the land-grant university systems through the Association of Public and Land-grant Universities—APLU—and many of the Extension Committee on Organization and Policy—ECOP—and Experiment Station Committee on Organization and Policy—ESCOP—groups that are affiliated with that group. And we have a formal endorsement from the land-grant system on this topic area.

So we have been in consultation about the consolidation. But what we wanted to do is, we posed this question to the land-grand system: If you had an opportunity to build a new IPM program, what would it look like? And that is what we are going for, to try to achieve this with these consultative processes.

Mr. FARR. With all due respect—Mr. Chairman?

Mr. KINGSTON. Yes.

Mr. FARR [continuing]. You have created a decision to integrate it all without a plan. You don't have any plan. You haven't explained it in the explanatory notes. You just told us that you don't have a plan; you are going to meet with people and ask them. I think it is premature to suggest that we are going to dismantle this program and create a new one before you even know what the new one is.

Dr. JACOBS-YOUNG. Well, we have the principles on which both the new plan and the new program will work, and that is to integrate research, education, and extension and serve in the regulatory process as needed by our minor crop industries.

So we do have the principles and the foundation. How that program is implemented is what we would like to work with our stakeholders to achieve.

Mr. KINGSTON. You know, on the process—and I know we are over time, Mrs. Lummis, so we appreciate you——

Mrs. LUMMIS. That is okay.

Mr. KINGSTON. I think that what we would like to do with you as much as possible, as we process our bill and mark it up, is to work out some language so that IR–4 doesn't fall through the cracks in the eyes of the producer. Because I think the land grants might have a different view than the production people. And we are getting a lot of feedback on it, and yet our bill might not become law for a long time. There might be—but our step is going to be before your step. So rather than kill your proposal, I think we need to figure out, well, okay, how do we have some flexibility?

And, Mr. Farr, I think we could probably figure something out on that.

Mr. FARR. Okay. I support you on that. Thank you very much.

Mr. KINGSTON. Mrs. Lummis.

Mrs. LUMMIS. Mr. Chairman, I am happy to defer to you. We don't have a lot of specialty crops in my State. So on those issues, I am absolutely happy to, you know, surrender some of my time to you so you can work this out.

Let me tell you what I want to concentrate on, what I want to walk out of here with some notes about, so you can think about it, and then I will just start with this round homing in on them. I want to talk to you about a brucellosis vaccine. That comes as no surprise to you. I want to talk about the Ag and Food Research Initiative, the extra funding that has been requested there; the sustainable agriculture additional funding you have requested there. I want to talk to you about antibiotic research. And I also want to visit with you about statistical surveys.

STATISTICAL SURVEYS

I am going to start with the last first because it will come as no surprise to you that in these questions over the last few days I have been homing in on what I believe is the redundant collection of data at USDA and trying to find out whether efforts already made at USDA to consolidate data collection can be further advanced in a way that consolidates data collection.

So here is my first question. Dr. Clark, last year, your testimony stated that the Risk Management Agency relies on NASS annual county estimates to administer crop insurance programs, and the FSA relies on NASS county-level data to administer the CRP program, crop revenue support programs, and emergency assistance payments.

So my first question is, if the National Ag Statistics Service collects similar data to FSA and RMA, why do we need all three collecting their own data independently? Can't we have one repository for data and one collector of data?

Dr. CLARK. That is a good question. And there are a number of reasons why that isn't happening.

The county estimates program that you are referring to—one of the problems with the association with the Risk Management Agency is that their producers who take out policies for insurance are not required to necessarily report their yields. And not all producers take out insurance policies. So, in order to have the complete universe of people who are interested in the county estimates, you can't just rely on the administrative data from the Risk Management Agency.

There is another issue with timing of the data and the timing of the insurance policies with the timing of when the data is needed for the next year. So that is just one issue.

And in terms of part of this county estimates program, we are actually doing some consolidation, because the county estimates program probability survey design actually uses our September agriculture survey and our December agriculture survey and an additional survey that is done over a longer timeframe, and puts those survey data together to give us a complete estimate of the universe.

Now, county estimates, that is almost like doing a census. We are doing it a lot less expensively than if it were done as a census, because in order to get small area data, you have to have a large number of data in your sample, a large number of producers in your sample.

Mrs. LUMMIS. Okay, I am good and confused, but I will pursue this further with you.

BRUCELLOSIS

Okay, now I am going to switch over because of time constraints, to brucellosis. And we have visited about this before. You know that the larger NIFA grants have focused on tuberculosis, mastitis, and pneumonia, all in dairy cows, even though the 2008 farm bill recognizes that development of a brucellosis vaccine is a high priority and research was authorized and extension grants were made available for development of that. But it is not coordinated or well-funded.

And, quite frankly, this disease is the most paralyzing disease for producers in my State because the elk and the bison have brucellosis. We cannot ensure complete temporal and spatial separation of elk, bison, and domestic livestock, and so there is this transference. And unless we get an efficacious brucellosis vaccine that works on elk and bison, we are not going to solve this problem that ranchers have, you know, in distant corners of the States of Montana, Wyoming, and Idaho that are far away from Yellowstone National Park, yet they get the same—they lose their brucellosis-free status just the way that ranchers that are proximate to the greater Yellowstone area do.

This is a huge problem, and it has gone on and on and on. I was on the Greater Yellowstone Interagency Brucellosis Committee 20 years ago, and we have made very little progress in 20 years. Two weeks ago, I was up on the National Elk Refuge watching the Wyoming Game and Fish Department run around behind the elk feeding trucks, you know, shooting non-efficacious vaccines into elk while they were eating, with dart guns, just out of frustration, trying to get something visible on the ground done.

I mean, it is just—I can't believe in 20 years we have gotten nowhere with this. And of course, I suspect, in my frustration, that because it is only a three-State problem it is not a high priority for you. It is an extremely high priority for me. And Ames, Iowa's Research Center is a great place to have this coordinated effort. I want more attention to this issue.

And thank you for allowing me to vent, and I will wait until the next round to ask some additional questions.

Mr. KINGSTON. Okay.

Mr. Nunnelee.

Mr. NUNNELEE. I will pass for right now and figure out where I am.

Mr. KINGSTON. Well, let me ask you then, if you want to answer that brucellosis question, go ahead and comment on it.

Dr. WOTEKI. Well, as Mrs. Lummis observed, the brucellosis vaccine development is being done through the Agricultural Research Service, and I would like to ask Dr. Knipling to describe the current status.

Dr. KNIPLING. Well, first, I would acknowledge, we very much agree it is a very real problem and a high priority for our research.

We are continuing to invest in it at Ames, Iowa, taking advantage of our brand-new enhanced facilities there that were just put in operation 2 years ago, and that allows us to work with large animals in biocontainment. We are working with cattle, elk, and bison in those facilities and continuing to work on the efficacy of the RB51 vaccine that you are familiar with and also looking at vaccine improvements.

That vaccine does protect the cattle herd, and it works pretty effectively in bison but not in elk. The immune response is not sufficient in elk. But we are working on the improved vaccine for elk and also working on improved delivery methods. And that is, of course, a big issue, too. Once we even have an effective vaccine, is how to deliver it to the wildlife.

This issue is at the cattle-wildlife interface, as you know, and we need to find out how to actually protect the wildlife so that they don't transmit it to the cattle.

Mrs. LUMMIS. Well, I will wait.

Mr. KINGSTON. I will yield to the gentlewoman.

Mrs. LUMMIS. Thank you.

Absolutely. Except, as I said, for those of us who are ranching in the same States—Idaho, Montana, Wyoming—who are 400 miles away ranching in those States, 400 miles away from the wildlife-livestock interface, we are every bit as subject to losing the brucellosis-free status of the State and the very same treatment of our livestock, our breeding livestock, that goes over State lines. We have to have them bled twice to show that there are no positives and no false positives.

So it does affect people beyond the wildlife-livestock interface. This drug is absolutely, critically important. And my argument is, I don't believe we are spending enough money and enough time and devoting enough attention to finding an efficacious vaccine for elk.

And just thank you, Mr. Chairman, for allowing me to vent. I yield back.

Mr. KINGSTON. Well, thank you.

MARMORATED STINK BUG

And, Dr. Jacobs-Young, I wanted to ask you about the marmorated stink bug. Last year we had asked questions in the hearing, and at that time it was a bigger issue in Virginia and Maryland, but now it is down in Georgia and seems to be spreading. So what are we doing about it, and how is it going?

Dr. JACOBS-YOUNG. Well, I am going—if you don't mind, Congressman Kingston, I am going to pass that question to my colleague, Dr. Knipling.

Mr. KINGSTON. Okay, now, I am also going to ask you about whitefly, ambrosia beetles, and citrus greening—that is Huanglongbing.

Dr. KNIPLING. Yes, very good.

Mr. KINGSTON. And then I am sure we are going to hear about the brown apple moth from Mr. Farr.

Mr. FARR. I didn't have a question on that.

Mr. KINGSTON. Well, it still might be the time. But let's start with the stink bug.

Dr. KNIPLING. Yes, this invasive species has certainly generated a lot of attention, first introduced here in the Mid-Atlantic, but, as you said, it is spreading quite rapidly, not only to Georgia but probably about 30 States, headed west.

We did mobilize, remobilize our expertise and resources several years ago, not only within the Agricultural Research Service but working with NIFA, the universities, the fruit industry, so we have a coherent plan. We have actually developed a coherent, coordinated action plan, if you will.

And in terms of the research progress—and, by the way, it seemed to be less of a problem this year in the Mid-Atlantic than it was 2 years ago. We would love to take credit for that because of development of our technology, but it is probably perhaps more related to weather and climate conditions over winter and so forth.

But we have a three-pronged approach involving three different ARS laboratories. Right here at Beltsville, Maryland, we are looking at lures, attractants, some of the natural chemicals that the insects give off for either mating or aggregation. As perhaps many know, these insects aggregate for overwintering purposes, and that seems to be triggered by chemical cues. But we are looking at those types of technologies as a strategy to disrupt their behavior or to attract and trap them and kill them.

In Kearneysville, West Virginia, we are looking at the general biology of the insect and the review of insecticides. And, working with the EPA, we have helped generate some emergency registrations for pesticides that the fruit industry can use, particularly the apple industry.

And then at a biological control laboratory in Delaware, in Newark, Delaware, we are looking for and exploring the use of biological control agents, natural enemies of the insect, which originated in Asia, and actually doing exploration, foreign exploration, for biological control insects.

Mr. KINGSTON. Mr. Farr.

LIGHT-BROWN APPLE MOTH

Mr. FARR. Yeah, I thank you for bringing up that issue. I didn't really have a question other than to share the concern that we have with the light-brown apple moth, because now that the Department has decided not to wipe it out, eradicate it, we have to live with it. And our trading partners, including other States, are saying, you know, they don't want anything grown in that area to be shipped without extensive examination and certification that the produce is not infected. And we can't have it both—I mean, you can't just require an area that is so productive to have to have a burden on it that none of the rest of agriculture in the world has.

So, I mean, we have to really understand what we are going to have to live with and work on our trading agreements to make sure that our partners understand that. And so far the whole handling of this has been a mess. That is a comment on the light-brown apple moth.

CROP PROTECTION PROGRAM CONSOLIDATION

I just wanted to ask one question on the—comment on your consolidation of five programs into this Crop Protection, including this program, the IR–4. What is broken that needs fixing? Why can't you just label the whole program as Crop Protection without having to change it?

And the IR–4, what they are worried about—we talked about how essential it is. It is 60 percent of the budget. So what people are concerned with, you are going to get emerging of this new title, and other members of that merger, the other four programs, will be robbing Peter to pay Paul. We will have less money, less control, and put a lot of uncertainty—I mean, our international partners are all very excited about what we are doing with this project. They are creating their own minor-use programs like ours, modeling after the United States, and now we change it.

What is broken that needs fixing?

Dr. JACOBS-YOUNG. I will start by saying that one of the things that we have been working toward are efficiencies. And currently we have 6 programs that look at—we had 10, and now we have 6 programs that look at integrated pest management, which can benefit from a more coordinated effort.

And so, while we are looking to consolidate the programs, we certainly want to keep the level of service to the community. And that is why we are consulting them to determine how to move forward.

What happens with our stakeholders when we have six programs, PIs—Principal Investigators—have to apply to four or five of them to meet the total needs of their project. So it saves time and energy resources on the side of the stakeholders, and it also asks for administrative efficiencies inside the agency.

So with research, education, and extension integrated, then the regulatory product that added to that equation, we feel we can have a more robust program that meets the needs—continues to meet the needs and improves meeting the needs for those stakeholders.

So I hear the concern, and we certainly want to listen. And we want to move forward in a way that we can continue to please the IR–4 community, but in a way that utilizes resources in an efficient manner for all of us.

Mr. FARR. I think we all applaud that. That should be. But it seems to me the process here—and it is a political process, obviously, because you have so much input from the community. They are concerned that they are going to lose what they have because it will be blended. And it just seems to me that before you combine, you ought to come back with this plan saying, this is how we are going to implement it, so the stakeholders are assured that their concerns are going to be addressed.

I have dozens of questions just on this one issue, and I will just submit them to you for the record. But I do think that you need to spend more time figuring out what you are going to come up with——

Dr. JACOBS-YOUNG. One of the things——

Mr. FARR [continuing]. Before you decide you are going to combine them all into one program.

Dr. JACOBS-YOUNG. So one of the things I just want to also add is that we do have time. We are in the process of operating our fiscal year 2012 programs and panels, and so we have the time to meet with our stakeholders and meet with you all and to build this program in a way that is going to work for everyone.

Mr. FARR. All right. Well, we will be working with you as we write our budget.

And thank you, Mr. Chairman.

Mr. KINGSTON. Ms. Lummis.

Mrs. LUMMIS. Thank you, Mr. Chairman.

CONSOLIDATION OF AGRICULTURAL STATISTICS

Sort of back to the ag statistics point, here is what I will just sort of conclude with before I move on. I am apt to propose some amendments to the budget that will reduce funding for the collection of ag statistics and consolidate the collection of ag statistics.

Just know that is coming and that the better way to do it would be if you can give me some guidance on whether NASS is the best place to put it, or FSA, and how to get them consolidated. Because, you know, I am going to do it, and whether I do it right or wrong is sort of contingent on whether you give me some guidance or not.

Now, you can fight me, and that is fine. That is fair game. But wouldn't it be best, if I am successful in doing this, to be successful in a way that is rational? Otherwise, you know, I will be successful and create a mess for you, when really what I am trying to do is just consolidate the collection of agricultural statistics in a way that is efficient and meaningful and save some money.

Dr. WOTEKI. And we would be pleased to work with you. As my written testimony talked about, we are looking for ways to make efficiencies not only within our programs but across the Department.

Mrs. LUMMIS. Fabulous, and I appreciate that.

Dr. CLARK. Can I add something?

Mrs. LUMMIS. Yes.

Dr. CLARK. You do need to understand that data collected by a statistical agency is of a different character than data collected by an administrative agency. We have confidentiality requirements, and we do representative data collections. If you go to FSA or NRCS or RMA, you will not get representative samples and you will not get data that is protected against use for regulation or other compliance efforts.

Mrs. LUMMIS. Which is exactly the kind of knowledge you have that I don't have that I need in order to do this fairly and reasonably so I am not creating a mess. I don't want there to be unintended consequences of what I am trying to accomplish. I want the consequences to be fair and productive and useful.

Dr. CLARK. May I mention that one other effort that is going on with RMA, FSA, NRCS, and NASS is looking at consolidated reporting for the many different administrative functions and the same kind of reports. And NASS has been a key participant in that process and has helped get definitions so that they were workable across those programs.

One of the issues, though, is that NASS produces forecasts in season, and that program data cannot substitute for in-season forecasts, which are heavily used by the markets. And so that is another component that NASS has that is not provided by the administrative agencies. We actually now use FSA data very heavily in the October, end-of-season data forecasts, but it is not available earlier on.

Mrs. LUMMIS. Uh-huh.

Dr. CLARK. Earlier-on in-season data that are used for moving the markets and for principal economic indicators that are so important for so many of the constituents.

Mrs. LUMMIS. And, Dr. Clark, I appreciate your superior knowledge on this subject. I need it and I need to understand it so I don't mess this up. So we will work together.

AGRICULTURAL AND FOOD RESEARCH INITIATIVE—AFRI

Okay, Ag and Food Research Initiative, only 30 percent goes to foundational programs, like animal health. The rest is going to childhood obesity, climate change, food safety, global food security, sustainable bio, and energy.

Do you think that 30 percent of foundational programs is enough? And I want to know how the $62 million increase that is proposed goes toward the foundational funding versus some of these new priorities. How are you breaking that out?

Dr. WOTEKI. Okay, well, Congresswoman, the question about the balance within the portfolio of AFRI, the proportion that goes to priority areas of research and the proportion that goes to foundational, is something that we have discussed with the agency, we have discussed with the broader community. And because of some complaints from the research community about the original allocation, which was less for the foundational research, AFRI program leaders made the decision to increase it to the current 30 percent.

Certainly, the concept at the beginning of this program was it is authorized at $700 million, and the expectation was that the appropriation for AFRI would increase over time. And our request to increase it to $325 million in 2013 is part of a step-by-step process to increase this. But the——

Mrs. LUMMIS. My time is up, Doctor. Thank you very much.

Mr. KINGSTON. Mr. Nunnelee.

Mr. NUNNELEE. Thank you, Mr. Chairman.

Thank you all for being here.

BUDGET PRIORITIES

It is no secret that this Congress is wrestling with some very serious budget issues as those issues confront our Nation. And the nature of those issues means we have to prioritize. In my mind, the number-one priority for our Nation is defense of our country. Falling behind that, I have two areas that I think are priorities. One is infrastructure development, and the other is research, which is where you come in.

In my mind, the reason I place research so high on that list is there are some things that we can do collectively that none of us can do individually. And I think our Nation is experiencing the results of long-term investment in agriculture research, as we have men and women, farmers and ranchers that are literally feeding the world doing much more with less. But as we confront these budget realities, it means that every agency is looking at working with less money.

And, in my mind, I see your budget as having two components, in general. One is the research dollars that you administer that goes out to the people that are actually doing the research and then communicating the results of that research to the people in the field that can put it to use. The other is the administrative side that allows you to get those dollars and oversee them.

ADMINISTRATIVE SAVINGS

I want to address, if you are doing more with less, that you are making disproportionate cuts out of the administrative side and not the research side. I don't want to see the first dollars cut out of research. I want you to try to find ways to have savings and efficiencies on the administrative side first and not have across-the-board cuts.

So just, is that happening? And——

Dr. WOTEKI. Well, we agree with you about the importance of making administrative savings, and the Secretary has had a major,

major project under way to find where we can make administrative savings.

So, as you know, among the things that we have already done is to cut our travel costs. We did that by 20 percent. We have offered an early-out buyout for our employees, and we have seen in 2011 and so far in 2012 within the four agencies that are represented here retirements of almost 500 people. And then the agencies have made decisions about which ones of those positions they will fill and which ones they will cut. So there are a substantial number of positions that will not be filled as a result of this. We have cut back on hiring.

And we are also working with the other mission areas within the Department to identify additional savings that we can make administratively, through the way that we do our contracting, the way that we do our procurement, the way that our IT systems are managed, the way communications is managed. So we are part of that overall effort to identify administrative savings, because the principle is to put it back into the research and the education programs.

Mr. NUNNELEE. Good. I will support you as you continue to do that.

RESEARCH PRIORITIZATION

But my guess is, even after you achieve those administrative savings, you are still having to make critical decisions on priorities of research. How do you make those decisions? What rises to the level that says, okay, we are going to support this? And how do you decide what is not funded?

Dr. WOTEKI. Well, we use a consultative process. And the results of a year-long process we released last month in our action plan that describes priority areas for our four agencies and for the mission area.

In doing that, we held a series of meetings with all of the agencies and mission areas within the Department, because our research programs really undergird their program and policy decisions. We met with the major stakeholder groups, the commodity interests, as well as in the professional societies, the scientific societies, to get a sense of what the major interests and concerns were. And those are all reflected within the action plan.

So we have had that ongoing, and that has helped to provide guidance to the way that we built this budget request for 2013, as well as it is guiding our thinking as we are starting to work on the 2014 budget preparation.

Mr. NUNNELEE. Thank you.

Thank you, Mr. Chairman.

Mr. KINGSTON. Mr. Farr.

Mr. FARR. Thank you.

Seeing Mr. Nunnelee's priorities, I am just thinking how this department has the Food for Peace program, and if we spent more research on peace, we might not on have to spend so much research on war. So feeding the world is going to be a very important way to maintain peace.

SPECIALTY CROP RESEARCH

I am interested in the Specialty Crops Competitive Grant Program. I am pleased that the President requested a $60 million addition, as you pointed out to Mrs. Lummis' question on AFRI, but at the same time, you are eliminating the funding for the specialty crop initiative.

And I am concerned of why you don't specify that some research issues are of critical importance to specialty crops, such as improving the product quality or developing new mechanization technology. These certainly should be AFRI priorities.

In other words, how can we assure that specialty crops receive their fair and productive share of the research dollars?

Dr. WOTEKI. The Specialty Crop Research Initiative has been funded these last 5 years out of mandatory funds, and it was authorized in the Farm Bill of 2008. It has certainly been a very productive program. And as the Farm Bill is being reauthorized, there would be opportunities to reauthorize this program.

If it is not reauthorized, the logical place for specialty crops research to be funded would be through the competitive grants program, AFRI, that we have been talking about earlier in the hearing. And the proposals would be considered within the competitive grants process.

Mr. FARR. I guess it has to be spelled out more, though, so that these specialty crops will know that they will get their fair share of AFRI funding. That is the concern.

California grows a lot of grapes, and I have worked very closely with the grape and wine industry. In my district alone, 50,000 acres have been added to viticulture production. Last year, language was included in the agriculture appropriations report which intended to jump-start a pilot project on a collaborative research initiative between the USDA, our universities, the Cooperative Extension, and principals in the grape industry from across the United States, and I just wondered what is the status of that project?

Dr. WOTEKI. There is report language that relates to California—well, relates to berries as well as grapes, and the development of—or "consideration" I think is the word that is used for a collaborative project.

We have had some discussions with the representatives from the grape industry about such a collaborative project, but it remains at that discussion stage. There were no funds that were appropriated. Interesting concept. We would like to continue working with the berry and the grape industry to understand what the vision is that they have and how it could be accommodated both within the Agricultural Research Service programs as well as what opportunities for funding might be available through——

Mr. FARR. So other than discussing it with industry, there has been no effort to do a collaborative movement between the public entities, the USDA, universities, and Cooperative Extension?

Dr. WOTEKI. As far as I know, Mr. Farr, the answer to that is no. We have had some exploratory discussions. Nothing further.

SUSTAINABLE AGRICULTURE RESEARCH AND EDUCATION—SARE

Mr. FARR. All right. What about the Sustainable Agriculture Research and Education program, SARE, is that how you pronounce it, S-A-R-E?

Dr. WOTEKI. Yes, SARE.

Mr. FARR. SARE. That has been at the forefront of funding cutting-edge research and is easily accessible and relevant to sustainable farming systems. And I am interested that you are increasing the funding in fiscal year 2013 in order to initiate State matching grants, and I just wondered if you could explain to the committee the importance of getting that State—that additional money to get State matching grants. Is that expected to have a lot of more benefits?

Dr. WOTEKI. That is a program that is administered by NIFA, and I would like to ask Dr. Jacobs-Young to respond.

Dr. JACOBS-YOUNG. So this is a program that is being designed to leverage State dollars with Federal dollars, and so with the SARE program there is no matching requirement, and with this new program there will be a matching requirement at the State level.

Mr. FARR. And the expectations in getting those matches is that it is exponentially growing or what—do you have some——

Dr. JACOBS-YOUNG. We want to integrate. So much of the Cooperative Extension Service is supported at the State level, and so what we want to do is leverage Federal funds and State funds to better integrate sustainable agriculture into all of the Cooperative Extension activities that are happening across the State, and so that is what this new program is designed to do. It is going to look at curriculum development, dissemination options, how do we better articulate or disseminate the information about sustainable agriculture throughout the State programs.

Mr. FARR. That is very helpful, but I think it would be helpful to the committee as we look at this additional funding, what kind of—could you spell out what kind of better bang for the buck we are going to get with State matches? You don't have to do it right now. I mean, you stated the idea, but you must estimate that there is going to be more money, then, for research with the State match, and that is what we would like to see, what this new money will do to incentivize a growing research funding. Thank you.

[The information from USDA follows:]

The new Sustainable Agriculture Research and Education (SARE) Federal-State Matching Grant Program will allow a new level of inquiry and education. Funding would be available for teaching programs and to help study the complex interactions within agricultural systems rather than simply studying their individual components in isolation. The new program will use the existing SARE program competitive grants process to award $3,500,000 to states which commit at least an equal amount from state appropriations, revenue or private funds. This will strengthen working relationships and allow twice as much research and education to be accomplished for each Federal dollar invested. Funding will support activities that: (1) Integrate sustainable agriculture in all State research, extension, and education projects; (2) Support new research at sustainable agriculture centers at the Nation's land grant and other colleges and universities; (3) Build stronger Statewide farmer-to-farmer networks and outreach and technical assistance strategies; and (4) Incorporate sustainable agriculture studies and curriculum in undergraduate and graduate degree programs.

The integration of teaching with research distinguishes this authority from the pre-existing SARE program. It will support problem-solving research with real-life applications while facilitating the training of a new generation of scientists, citizens, and practitioners knowledgeable about sustainable agriculture. Incorporating new knowledge into undergraduate and graduate agricultural related program curricula is an especially effective way to create a cadre of individuals with the knowledge and skills needed by the public and private sectors to meet the growing expectations of American consumers for sustainably produced food. Federal funds will provide incentive for state or private sector entities to partner with agriculture researchers and educators (i.e. provide the match for) in support of work designed to address today's real-world issues and problems and those anticipated in the future.

CENSUS OF AGRICULTURE

Mr. KINGSTON. Dr. Clark, I get the survey from NASS every year, and I am not sure why I would do that.

Dr. CLARK. Which one?

Mr. KINGSTON. I thought I had thrown it away, but I didn't want to be arrested; but it is this one that is the National Agricultural Classification Survey NACS classification.

Dr. CLARK. Oh, yes, I can tell you about that one.

Mr. KINGSTON. If you saw my garden, you would see that I do not qualify as an agriculture guy on any measure.

Dr. CLARK. You must have some—be on some list where you have agriculture sales.

Mr. FARR. Chairman of the committee, does that help?

Dr. CLARK. Can I explain what this survey is?

Mr. KINGSTON. Yes.

Dr. CLARK. This is the survey—let me just step back. The Census of Agriculture, as you know, will be conducted for the calendar year 2012, with mail out in December of 2012. The definition of operations that qualify for the Census of Agriculture is those operations that have a thousand dollars of sales in the census year or have the potential of having a thousand dollars of sales. It is a minimal definition, which Congress has set, and in order to determine operations that have that definition, we have to do a wide search to get lists from a number of different organizations, agriculture organizations, from the IRS, so filers who have agriculture sales on the 1040F, producers from many different types of agriculture, and we use those to compile the list. We do a presurvey, which is a mandatory survey. It is part of the census early in 2012 to determine which of those actually qualify for the census.

Now, what you got is a much shorter form than you would get if you, in fact, do qualify. So the best thing for you to do is to return that form and tell us you do not qualify so we will not continue to send you requests and determine—to determine if you are a farm or if you are not a farm.

Mr. KINGSTON. Well, I think one of the—I don't own land, never grown crops, never had any involvement on any type of ag sales, so I don't know how I would in the suburbs get on the list. But I am wondering from Ms. Lummis's search for efficiencies if there are, you know, perhaps hundreds, thousands, of other people who are getting them who, like me, in your busy life, rather than mail it and say take me off your list, you just throw it away because that is the fastest way to deal with it.

Dr. CLARK. We are doing very extensive follow-up efforts because it is less expensive for us to get you off the list now than it is to continue with the process in the census. So we are doing extensive telephone follow-up now on those people who did not send back the form to try to get them to reply to us so we can take you off.

Mr. KINGSTON. But, you know, so many people now don't have land lines. I don't know how you would get my phone number and be able to reach me, even though we still have one, but I would think a lot of people, it would be very hard—I mean, you know, we are just inundated as American consumers with everything. And so you just, whenever you can, say, I am throwing this away.

FOOD DESERT

But the reason why I mentioned—Mrs. Lummis has been relentless in terms of data collection and all that, and Dr. Woteki, one of the things that you have in your comments is this food locator, food desert locator tool. Again, living in the suburbs, I now live in a food desert, and it is absurd. You know, I am in a middle-class suburb where there is virtually no one who needs to walk to the grocery store, and the only thing I could get out of Secretary Sebelius is, well, if you live there and you had to walk, you would be in a food desert. I think we can do better than that in terms of a government.

I mean, a food desert, I think, has some sincerity in what it is trying to accomplish. But when Oxford, Mississippi, which Mr. Nunnelee has pointed out is a food desert, or Isle of Hope, Georgia, is a food desert, we lose credibility as the government because it is just one more really stupid government idea that, come on, let's be serious. And so the reason why I say, you know, these things are somewhat tied together in efficiency.

INVASIVE SPECIES RESEARCH

Now, I am about out of time, so one of the things I wanted to ask you, Dr. Knipling, for the record, but really if I could get it sooner than that, would be if you could give me somewhat your five-point plan—your three-point plan on the whitefly, the silver whitefly, the stink bug, the HLB, and the light brown apple moth, and just some of these higher profile pests—what you are doing with it, because I can say our folks from California and our folks from Florida and some from Texas are going to be really hit up with this question about HLB. And, you know, I would like for members of this committee to say, here is what is going on with it and here is how it is being dealt with, and so, again, I had just listed—oh, I am going to put the ambrosia beetle on there, but it would be the whitefly, the silver whitefly, and the stink bug. As I understand, on the marmorated stink bug, there are now two versions of it in Georgia and one is slightly different from the one in Maryland. I might be wrong on that. It is the kudzu stink bug, but not necessarily a bad thing if it is in Kudzu. But I understand that that is——

Dr. KNIPLING. We are aware of that, and we can provide much more detail for the record for all these. But I would say in general, there are some common threads, that we are attacking the invasive species through some sort of control mechanism, management, lures, that type of thing.

Mr. KINGSTON. Yeah, I know you are on it. For example, you know, Mr. Wolf from Virginia asked about the stink bug, Roscoe Bartlett, Ann Marie Buerkle asked us about cormorant, so let me throw in cormorants as well. Do you have that under you?

Dr. KNIPLING. No, that would fall under APHIS Wildlife Services.

Mr. KINGSTON. But we as a committee would just like to be able to say to Members, here is what is being done, we asked questions about it, you have got some good scientists looking at this stuff. But it would also help us pass our bill and get some of the Members who are cynical about what we are doing to say, look, here is how it is relevant to you.

Dr. KNIPLING. I would just acknowledge we have strong expertise in terms of scientific disciplines that we can direct toward that, mobilize, remobilize our resources to address any emerging problem. All of this is in collaboration with our university partners, and more often than not with the industry partners as well. They are the ones ultimately affected by this before the American public is. So we can provide much more detail on all of those initiatives.

Mr. KINGSTON. And Mr. Farr has brought to my attention also the European grapevine moth and the glassy winged sharpshooter, some of these that——

Dr. KNIPLING. Yes, all of these fall under this very important problem area of invasive species.

[The information follows:]

ARS Invasive Species Research

ARS uses integrated pest management as a general environmentally safe, and cost-effective approach to management of invasive species. In some cases such as Asian longhorned beetle, we also support eradication efforts by APHIS. In support of the Department's integrated pest management (IPM) goals, ARS currently conducts more than 57 IPM research projects at 33 locations that are focused on minimizing pesticide inputs through the development of classical and augmentation biological control, cultural control, host-plant resistance, behavior modifying chemicals (e.g., pheromone mating disruptors and attracticides), sterile insect release techniques, resistance management, cultural and mechanical practices, improved pesticide application technologies, and other related pest control tactics. Target pests include a multitude of insects, mites, and ticks; plant pathogens and nematodes; and weeds. In addition, ARS funds the Areawide Pest Management Program, which supports 5 to 10 multi-year IPM projects to facilitate the implementation and adoption of ARS-developed IPM technologies to control or suppress agricultural pests over multi-state or multi-regional areas through partnerships with growers, commodity groups, and State institutions, Federal and State agencies, and the private sector.

European Grapevine Moth (EGVM): The European grapevine moth (*Lobesia botrana*, EGVM) is a native to Southern Italy and was first reported in the United States in Napa County, California, vineyards in October 2009. It subsequently spread, and quarantine areas are established in 10 California counties. The moth is also regulated under international quarantines, which serve as trade barriers to export of propagated vine material, table grapes, stone fruits, and several specialty crops grown in California. ARS (Parlier, CA) has an ongoing collaboration with APHIS and California industry to develop effective postharvest treatments to satisfy quarantine requirements. The ARS European Biological Control Laboratory (EBCL, Montpellier, France) has worked with California cooperators (primarily at the University of California) to: 1) provide samples of the moth from various sites in Europe and Asia for comparative genetic analysis with CA populations, and 2) survey selected sites in Europe to document indigenous natural enemies. Because the EGVM's permanent establishment has not been proven, California cooperators are not prepared for EBCL assistance in importing European natural enemies for a biological control program. However, this approach is anticipated if the EGVM escapes its quarantined areas within the State and eradication is not an option.

Glassy Winged Sharpshooter (GWSS): GWSS, a type of leafhopper, transmits the bacterium *Xylella fastidiosa,* which causes Pierce's Disease (PD), which is lethal to grapevines. ARS research includes 1) field trials of resistant rootstock and scion varieties; 2) expanding the knowledge base of GWSS biology, ecology, epidemiology, pathology, and mass rearing; and 3) determining *X. fastidiosa* vector biology and ecology. Combining results from this work, ARS supported APHIS in demonstrating an area-wide program to reduce the incidence of PD by controlling the vector with pesticides. ARS and the University of California-Davis used molecular markers from a PD-resistant grape line of *Vitis arizonica* to breed PD-resistant raisin grapes that retain 97 percent of the original raisin genes, thereby preserving key varietal characteristics.

Light Brown Apple Moth (LBAM): LBAM is native to Australia and is now found in several California coastal counties. ARS endeavors on LBAM monitoring and control supports APHIS efforts to limit the insect's spread. ARS research aims to improve mating disruption, traps, and baits. Postharvest efforts include the development of irradiation and fumigation treatments. ARS developed an APHIS-certified methyl bromide treatment for California fresh commodities (apple, grape, nectarine, peach, plum, and raspberry). Current ARS research activities are limited, although APHIS maintains a small LBAM research colony to supply specimens for continuing collaborative research on postharvest treatments. LBAM has been placed in the first queue for sequencing by the Baylor College of Medicine as part of the ARS-led i5k insect genome sequencing initiative.

Ambrosia beetle: Exotic ambrosia beetles are increasingly recognized as key pests of field-grown nursery crops. The granulate ambrosia beetle, Xylosandrus crassiusculus, has become a significant pest of ornamental nursery crops stock since the accidental introduction into the U.S. from Asia. Studies aimed at improved monitoring and detection techniques, optimized conventional and botanical insecticide formulations and application technologies, and better understanding of the seasonal activity of the ambrosia beetle are necessary for effectively limiting their impact on production. ARS scientists in Wooster, Ohio, with collaborators from Virginia Poly Institute & State University found that ethanol, when injected into trees, serves as a highly attractive semiochemical, as a tool for baits or traps, and for monitoring the beetles' seasonal flight activity. ARS collaborations with Tennessee State University provided efficacy data for conventional insecticides and environmentally-friendly botanical insecticides for reducing attacks by ambrosia beetles. Precision sprayers were developed that apply targeted insecticide as needed and greatly reduced the amount used for control. Collectively, this research provides alternative management strategies for pest control that will reduce dependence on traditional insecticides.

Silverleaf Whitefly: Also known as Sweetpotato Whitefly, *Bemisia tabaci* was nearly under control until 2004, when a new Q biotype was introduced from Europe that is more resistant to insect growth regulators and neonicotinoids than the B biotype. ARS was the lead U.S. agency in the North American survey to document the insect's distribution following the invasion of the Q biotype. ARS developed biotype-specific markers that identify the insect, and conducted a global search for related species that elucidated the phylogeny of the *B. tabaci* species complex. ARS and the University of Florida are developing program targets for the Q biotype that would effectively manage the pest when it is detected. For example, ARS developed banker plant systems for controlling *Bemisia* in poinsettias and greenhouse-grown tomatoes that are compatible with integrated pest management programs. A diagnostic method to identify biotypes that does not require knowledge of molecular techniques or equipment is being developed for field use.

Brown Marmorated Stink Bug (BMSB): BMSB, native to Asia, attacks a broad range of crops. There is no effective detection method, treatment threshold, or control strategy for BSMB in any cropping system. And other than physical exclusion, effective management strategies for homeowners and businesses do not exist. ARS has made significant progress in developing lures and traps for use in attract-and-kill strategies, long-term biocontrol solutions, and natural chemical compositions for repelling the insect. In a breakthrough, ARS now has a lure that is useful in monitoring BMSB populations and new feeding deterrents and repellents. Of critical importance, scientists have also found pesticides that are effective against adults and nymphs, and have several promising biocontrol agents in testing for release. Several pyrethroids have been shown to be excellent controls, and ARS data have been instrumental in arguing for an exemption to use one of these, bifenthrin, under Section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act.

Red Banded Stink Bug: This bug, native to South America, has now become the dominant pest stink bug in soybean in several mid-South States. Scientists have found that trap cropping systems are effective in managing the insect and providing nectar to native beneficial insects can enhance the activity of the native insects.

Kudzu Bug: This bug, related to stink bugs and native to Asia, was first detected in northern Georgia in 2009, and has since spread rapidly. In the spring the pest feeds on the invasive plant kudzu, but successive generations feed on soybean leaves. It is a major nuisance and can be noxious, sometimes burning the skin when handled. Ongoing ARS research includes 1) monitoring insect populations in soybean in Georgia, 2) expanding the basic knowledge of kudzu bug biology and ecology, 3) designing and testing trap cropping systems to deter the insect from invading the crop, 4) testing insecticides, and 5) evaluating the use of a tiny black wasp from Japan that lays its eggs atop those of the kudzu bug's eggs. Upon hatching, the wasp brood devours the kudzu bug's emerging larvae. Studies conducted in Japanese soybean fields indicate that up to 75 percent of the bug's eggs may be parasitized by the wasp. The next step is for ARS scientists to determine whether the use of the parasite will reduce the number of kudzu bugs moving from kudzu into soybean.

Asian Longhorned Beetle (ALB): Native to Asia, ALB is considered among the world's most devastating invasive species of hardwood trees, especially maples, where it feeds deep within the heartwood. ARS has developed predictive models of beetle dispersal, seasonal phenology, and a field guide for surveys used by APHIS, State departments of natural resources, and other countries. The painted maple has been identified as a sentinel tree system for early detection of adult beetles. ARS has 1) discovered and evaluated kairomones (host odors) of painted maple sentinel trees that show promise as an attractant for early detection of adult beetles; 2) identified the male aggregation pheromone, female sex pheromone, and plant volatiles from host trees, resulting in a potential attractant for early detection of adult ALB; 3) identified and determined that several natural enemy species native to the United States and Europe parasitize and kill ALB, with potential use in biological control; 4) determined the efficacy of an encapsulated insecticide to kill ALB adopted by APHIS and used thus far by the California Department of Food and Agriculture in combination with the sentinel tree as an attract-and-kill strategy; and 5) placed ALB in the first queue for sequencing as part of the ARS-led i5k insect genome sequencing initiative.

FUNDING FOR SPECIFIC INVASIVE INSECT RESEARCH

	FY 2011	FY 2012	FY 2013 Proposed
European Grapevine Moth	0	$88,000	$88,000
Glassy-Winged Sharpshooter	$6,344,000	$5,539,000	$5,539,000
Silverleaf Whitefly	$4,043,000	$3,178,000	$3,178,000
Brown Marmorated Stink Bug	$750,000	$875,000	$875,000
Asian Longhorned Beetle	$1,512,000	$1,169,000	$1,169,000

Note: Funding shown is for research only and does not include APHIS funding for detection, control, or other activities.

ARS Citrus Greening Research

BACKGROUND

The presumed causal agent of citrus greening found in Florida is the bacterium *Candidatus* 'Liberibacter asiaticus' (CLas), although at least three species of Liberibacter are known to cause the disease in other parts of the world. The vector of CLas is the Asian citrus psyllid (ACP), *Diaphorina citri*. ACP transmits CLas by feeding on the phloem tissue of an infected citrus plant and then flying to a healthy plant to continue feeding. The psyllid vector was first detected in Florida in 1998, but the citrus greening disease itself was not identified from symptomatic trees until August 2005. This is due to the long period of latency after inoculation by the psyllid before symptoms are expressed by the plant. Citrus greening is now present in all 32 citrus-producing counties in Florida. Greening was recently confirmed in the Rio Grande Valley of Texas, and efforts are ongoing to eradicate it before it becomes widespread.

Citrus greening is known as Huanglongbing (HLB, known as "yellow shoot disease" or "Yellow Dragon Disease"), after its original identification in China in the early 1900s. Citrus greening remains a serious threat to U.S. citrus production, causing premature fruit drop and tree decline, and producing fruits that are small, lopsided, of poor flavor, and ultimately unmarketable.

FIELD MANAGEMENT STRATEGIES

Suppression of the psyllid vector of greening is the primary factor involved in managing the disease. ARS scientists worked with growers in Florida to improve the efficacy of pesticides for suppression of the psyllid vector, with significant savings to growers and a reduction in the amount of product needed for tree coverage. ARS scientists have provided strategies for survey and sampling to the Florida and Texas citrus industries, and to State and Federal agencies to determine the distribution and impact of the disease. These survey methods and strategies are being deployed in area-wide psyllid control programs in Florida, and are critical in the effort to eradicate the disease from Texas. ARS scientists have provided better diagnostic techniques for citrus greening that industry and regulators are now using.

ARS RESEARCH TOWARD DISEASE RESISTANT CITRUS

ARS scientists and collaborators have made progress toward developing new citrus varieties and rootstocks that are productive in the presence of citrus greening. Accomplishments toward this goal include:

1) Completion and public release of the genome sequences of an important citrus rootstock, and the psyllid vector of CLas, which will provide new sources of disease resistance genes for citrus cultivar development.
2) Incorporation of disease resistance genes into commercial citrus cultivars to screen and evaluate resistance to citrus greening.
3) Identification of citrus cultivars and rootstocks through conventional breeding and biotechnological approaches that are promising for protection against this disease, and that can be used in an integrated management program.

RESEARCH FUNDING

FY 2011	FY 2012	FY 2013
$1,638,400	$1,490,400	$1,490,400

INVASIVE SPECIES RESEARCH

Mr. KINGSTON. Also, switching gears, if the committee will indulge me a few more minutes, and I understand the State of Florida gets one invasive species of plant or animal a month, and our former colleague Mr. Putnam is the commissioner of agriculture down there, and so maybe that is why we know about Florida.

I bet you California, Mr. Farr, has the same type challenge and just about everywhere does. But the importance of it is, of course, it is important to the food supply, and that is why everybody is interested. But just sort of politically, what I have always felt is—and you and I have had this conversation in the past—is that ARS is a great tool for the public to understand, this is the research that is going on, and, yeah, it is a funny story when Reader's Digest picks up that Congress has put in $500,000 to find out what a screwworm is or why bugs, male bugs are attracted to females, and it is a big laugh. But the reality is this stuff is so important to the food supply, and for the layman to go in there and understand what you are doing, it just speaks volumes. I mean, we can sit here on the House floor and defend these programs all day long, but getting a Chamber of Commerce, nonfarm people into an ARS lab or any of your labs and seeing that research is so key to a better understanding and more USDA support.

Dr. KNIPLING. If I could make just a few more quick points. Much of the genomic technology we talked about before actually plays into this. We are doing genomics not only on the invasive species, the disease or the insect pests, but on the commodity that it affects to get new insights to how to attack this. Our budget proposal for next year within ARS does redirect some existing resources to give more emphasis to these issues.

Mr. KINGSTON. We will have some more on that. Thank you. Mrs. Lummis.

Mrs. LUMMIS. Thank you, Mr. Chairman. You know, we are $1.2 trillion in deficit spending going forward, and so we are just trying to find ways to reduce the deficit and still administer great programs for the American people. None of this is personal. We are on your side. We know that you are on our side. It is sort of all for one and one for all, but we have to do it in a way that is less expensive, we just do. God bless us all in our efforts there, including you.

SUSTAINABLE AGRICULTURE

I want to follow up on something Mr. Farr had begun to question, and that was this new proposed $3.5 million program, State-Federal matching program, to evolve American agriculture to a more highly productive, sustainable system, the NIFA matching program.

I have a list that I got from the USDA's Web site, building sustainable farms, ranches, and communities, an A-to-Z program index, two pages of programs that already exist on evolving American agriculture to a more highly productive sustainable system.

So my question is, with all of these programs that are, you know, touted on your own Web site as promoting sustainable agriculture, why do we need a dedicated stream of funding for an additional program? Is there not some—could one of these be converted to a matching program if you think that is a more efficient way to deliver sustainable ag programs?

Dr. WOTEKI. I will let Dr. Jacobs-Young talk about the specifics. But just, you know, in principle, the discussion we have had already this morning illustrates, you know, the problems that are facing agriculture. There is a constant evolution—new diseases, new pests that are being introduced from outside or that are evolving naturally. We have literally hundreds of different crops, a half dozen major animal species of importance in agriculture, and each one has its own set of diseases.

So we have not really had any meaningful increase in the support of our research and education programs for over a decade and close to two. We have been keeping about the same level of funding over that period of time. So in order to get new information developed that is going to meet the needs of all of these producers that are doing these literally hundreds of different crops, we are looking to work collaboratively, in teams, and to leverage our funds, so the State match is clearly also in the State's interest to support the producers that may be very specialized within their State or within their region.

Mrs. LUMMIS. And none of these programs do that? None of these two pages?

Dr. WOTEKI. Well, those are built on the knowledge base that has been accumulated to date, but there are additionally specifics related to specific crops and growing conditions, soil, and, you know, climate conditions in different parts of the country that they are looking——

Mrs. LUMMIS. And, further, none of these do that?

Dr. WOTEKI. Some of them do. Some of them have got new problems.

Mrs. LUMMIS. I marvel at our ability to expand government, I marvel. But I am generally a fan of matching programs. I think that that is a way to really leverage funds and really focus money on a problem that is unique to a State or a county or something, and so I am—you know, I am receptive. I am just having trouble figuring out what gap it is filling. So maybe just a little more information on that.

Dr. JACOBS-YOUNG. Well, so the census of agriculture has shown us that we have seen a growth in the number of farms in the United States, and most of those are small farms, farms less than $50,000 in annual sales. And what this program will do is help us reach many of those farms to disseminate the information.

Now, I think that list came from the USDA Web site. NIFA specializes in our partnership with the Cooperative Extension Service which has been—We are celebrating our 150th year of partnership with the land grant system through the Morrill Act, and so we are utilizing that infrastructure to reach many of these new farmers and existing small farmers to disseminate educational materials to help them become sustainable agricultural producers. And so that is the objective, and that is what we hope to achieve by partnering with the States to work on their very specific issues.

Mrs. LUMMIS. Thank you.

Mr. KINGSTON. Mr. Nunnelee.

Mr. NUNNELEE. Thank you, Mr. Chairman. I did observe your question about your agriculture census. What I took from it is if you don't turn it in, you may get a census from the IRS. So you may want to turn it in.

Mr. KINGSTON. I still have it. I am going to turn it in right now.

Dr. CLARK. Great, great.

USDA DATA COLLECTION

Mr. NUNNELEE. I have just got a couple questions. One follows up on what Mrs. Lummis asked a while back, and I heard the answer about different agencies having different needs for data, different levels of security, et cetera. But my job is to speak for the farmers and ranchers in north Mississippi, and I hear from them on a regular basis, that they spend an inordinate amount of time filling out forms, giving the exact same information to various levels within USDA, and that means they don't have the time to do what they are in business to do, and that is to farm and ranch.

And so I want to join you, Mrs. Lummis, in whatever we can do to help streamline that process. Certainly in the age of modern technology and information sharing, we can find a way that the farmer or rancher in north Mississippi can complete one form, get it to one source, and they can get that information out to the various offices that need it. So that is my thought. Can you help us?

Dr. CLARK. Well, if they are to be used for programs or for regulations, data collected by NASS cannot do that because we—our data is collected under confidentiality provisions and can only be used for statistical purposes, which would be producing official statistics. If you are interested in forecasts, you have to do data collection during the season. That is the only way you can get forecasts, and some of those administrative forms don't happen.

But we are working very seriously to reduce the number of data collections within our agency to make it easier on the farmer and rancher in terms of their reporting efforts and to try to make that process go more smoothly. We have done a lot—to go back to the administrative questions that we had earlier, NASS has been in a major transformation for 3 years to help us move to the digital age. We were not there, and in order for us to get there and to do some of the things that you would like us to do, we have to be doing everything electronically. So we have moved in that area.

We have also moved to a standardization process so that our data will be more consistent, and we will be able to produce more reliable data. We are beginning to see some of the results of the efficiencies, and in fact you see it in the 2013 budget because the county estimates program that we talked about, we have had a budget initiative for that program in 2011, and, in fact, we had initial estimates from Congress that supported additional funding for that program. It supports $7 billion of funds from the Risk Management Agency; $10 million for data collection is very small to support a $7 billion program. We are taking savings from our administrative efficiencies to fund the increase that we need to get reliable estimates for that program. We are doing it—county estimates, if you compare the cost of $10 million a year to the total cost of a census that is $220 million over 5 years, it's very inexpensive.

FOOD DESERT

Mr. NUNNELEE. All right. And then one final issue the chairman raised, and I have been asking USDA, and nobody has got me a satisfactory answer. How in the world Oxford, Mississippi, and now Isle of Hope, Georgia, can be labeled a food desert—and if somebody can explain that to me, what criteria yields that result, I would love to hear it.

Dr. WOTEKI. I would like to ask Dr. Bohman to talk about it. The Economic Research Service worked to develop that food desert locator.

Dr. BOHMAN. Thank you, Dr. Woteki. The food desert research that ERS undertook that led to the food desert locator was initiated based on the 2008 Farm Bill where we were asked to do a national study and provide definitions and measurement of food deserts, and we published our findings in 2009 and used those findings to develop the food desert locator. So we did this based on the available national data at the time and our research that looked at the sociodemographic characteristics of the population on average. So it is a national definition. As with any national definition, you are not going to capture every single location in a way that might make sense to the residents. This is something you see in rural definitions, where there is always, no matter how you define a rural area, there are people who don't see themselves in the area defined. It is a very challenging area of research, but we are continuing this work, and we are going to publish new estimates later this year based on updated data on sociodemographic characteristics and new information on retail locations. We hope that it will provide—make improvements and advance the science.

We don't expect that every single individual will feel that they are perfectly captured, and we are also undertaking complementary work on some of the key issues that I think make the most difference, such as access to a vehicle and transportation which help, I think, in an area defined as an urban area, and access is a mile away, or a rural area which is 10 miles away, access to a vehicle makes a big difference, and we are looking at that role in defining food deserts.

Mr. NUNNELEE. When your work product produces something that is inconsistent with my experience, it tends to make me dismiss your entire work product. So when I hear the term "food desert," I dismiss it completely because it has no meaning in my mind based on my experience. So thank you.

Mr. KINGSTON. Mr. Bishop.

AGRICULTURE AND FOOD RESEARCH INITIATIVE—AFRI

Mr. BISHOP. Thank you very much. Let me welcome all of you. I have got some—a few questions. First I want to talk about the Agriculture and Food Research Initiative. I am a very strong advocate of agriculture research and the important work that is done with the land grant colleges through AFRI, and you are requesting an increase of $60 million to the Agriculture and Food Research Initiative.

I want to talk to you about the process that is going to be used to set the funding priorities in the program. I understand that you just had stakeholder listening sessions, which is an important step toward making sure that the funds are addressing the most critical societal issues. But the administration's budget request consolidates funds for research, and I want to make sure that we are being careful that important priorities like water quality research don't fall through the cracks.

Of the areas that have not been previously funded through the Agriculture and Food Research Initiative, how do you plan on setting the funding levels for these new program areas and how are you going to incorporate those topics into the fiscal year 2013 solicitations? And how are you going to handle it if they don't fit cleanly into the AFRI challenge areas?

Dr. WOTEKI. Dr. Jacobs-Young is responsible in an acting capacity as director of NIFA for the AFRI program, and I would like her to respond to your question, Mr. Bishop.

Mr. BISHOP. Thank you very much.

Dr. JACOBS-YOUNG. Thank you for your question, Congressman Bishop. Absolutely, we have requested a $60.5 million increase for AFRI, and we continue to support the five challenge areas that I am certain you are familiar with: the bioenergy, food safety, food security, nutrition and health, and climate change.

We also are supporting the NIFA fellowship program, which is a new program where we are looking at the pipeline for our industry, and so we have had the honor of supporting 54 students last year for $6 million. We will continue that. We also have the foundational programs that we are going to continue investing in.

One of the things that we are also proud of is the support we have for the minority-serving institutions, and as part of the increase that will also go to support minorities serving in small- to medium-sized institutions. So one of the things that we have heard from our stakeholders is, when they look at the five priorities, the challenge areas, sometimes they have a difficulty identifying where the areas fit. So it is really difficult. All of them fit. We have to do a better job of helping to articulate where the activity actually is best suited to be competitive.

So when we look at food security, water quality, when we look at climate change, water quality, so many of our areas, you know, are applicable; but we just have to do a better job helping our stakeholders find out where their specific projects fit.

RENEWABLE ENERGY

Mr. BISHOP. Thank you. Thank you.

Dr. Woteki, GAO recently published a report regarding the hundreds of renewable energy initiatives that are being implemented by Federal agencies, and in the report USDA accounted for 105 initiatives which spanned six of USDA's seven under secretaries. USDA had the largest number of initiatives that supported bioenergy, accounting for 20 percent of the initiatives that supported bioenergy. And GAO identified 47 renewable energy initiatives within your mission area.

One of the purposes of the report was to identify the different roles that are being played by each department, but after reviewing the report I am still not clear on what the USDA role is and how the work that is being done in REE differs from that in the other departments, other mission areas in USDA, sort of in a cohesive or meaningful way.

So can you kind of talk about what REE brings to the table with respect to managing the renewable energy programs and how the programs that you manage are important and well placed? You know, renewable energy is really a broad subject area, and it is ever expanding, and how your agencies work with agencies in other departments, how are you going to show coordination?

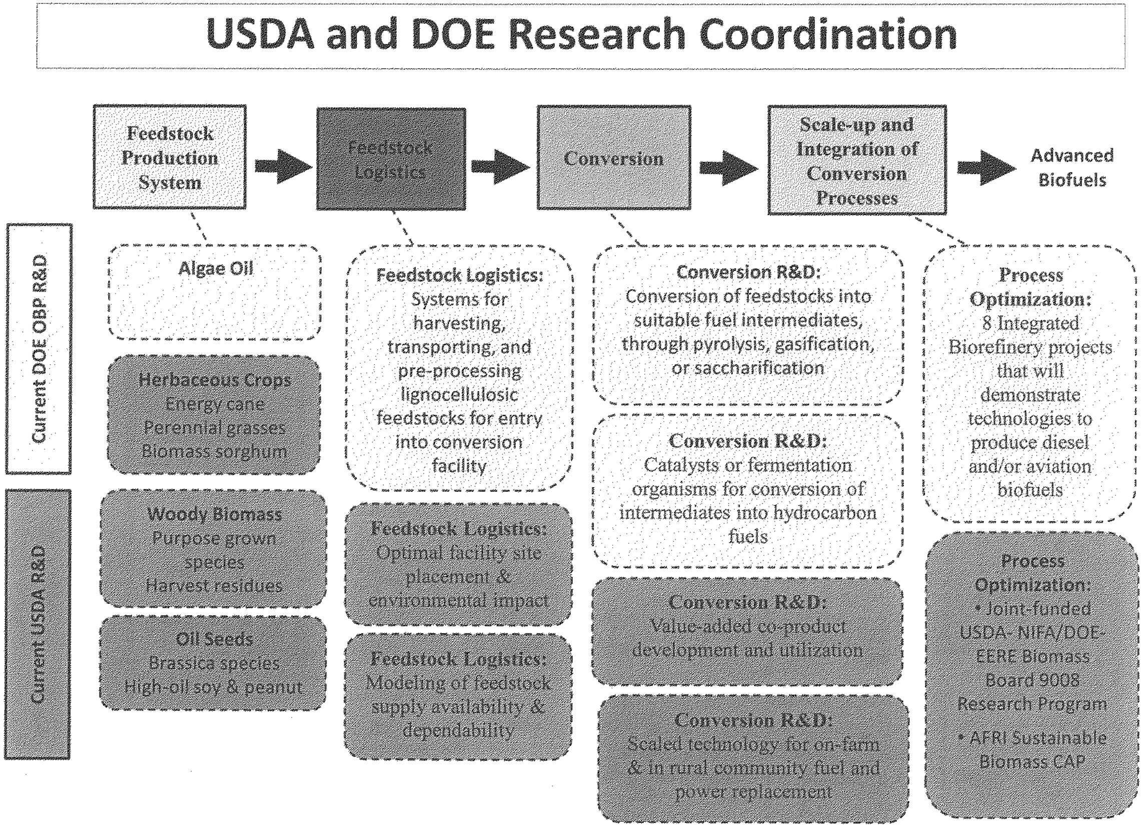
Dr. WOTEKI. We certainly have renewable energy bioproducts and biofuels as one of the priority areas for our research programs, and I do have a very good diagram that lays out the picture of how our research programs dovetail with the Department of Energy's. Our focus is on the feedstocks development, so plant-based materials, the improvement of those, the identification of crops that would be appropriate for feedstocks and the improvement of those crops to make them better feedstocks.

Our programs are planned in conjunction with the Department of Energy under an initiative that goes by the acronym BRDI, B-R-D-I, the Biofuels Research and Development Initiative, and the reason that we work so closely with the Department of Energy is that the feedstocks work has to dovetail with the research that Energy is focusing on, on the conversion technologies. And together we need to be working with the private sector, which is part of our BRDI initiative, so that they have a good understanding of this research pipeline, and we are able to hand off the results coming out of the laboratory into the private sector for commercialization purposes.

So I would be happy to provide for the record a copy of that diagram that lays out, you know, the different steps of our research program and how they articulate with the Department of Energy's research programs.

Mr. BISHOP. Thank you very much. I know my time has expired, but I would appreciate it if you would provide that for the record. Of course, I would like to get it separately if you could also do that, just provide an additional copy of it. Thank you, Mr. Chairman.

[The information from USDA follows:]



USDA and DOE Research Coordination

Feedstock Production System → **Feedstock Logistics** → **Conversion** → **Scale-up and Integration of Conversion Processes** → **Advanced Biofuels**

Current DOE OBP R&D

Algae Oil

Feedstock Logistics: Systems for harvesting, transporting, and pre-processing lignocellulosic feedstocks for entry into conversion facility

Conversion R&D: Conversion of feedstocks into suitable fuel intermediates, through pyrolysis, gasification, or saccharification

Conversion R&D: Catalysts or fermentation organisms for conversion of intermediates into hydrocarbon fuels

Process Optimization: 8 Integrated Biorefinery projects that will demonstrate technologies to produce diesel and/or aviation biofuels

Current USDA R&D

Herbaceous Crops
Energy cane
Perennial grasses
Biomass sorghum

Woody Biomass
Purpose grown species
Harvest residues

Oil Seeds
Brassica species
High-oil soy & peanut

Feedstock Logistics: Optimal facility site placement & environmental impact

Feedstock Logistics: Modeling of feedstock supply availability & dependability

Conversion R&D: Value-added co-product development and utilization

Conversion R&D: Scaled technology for on-farm & in rural community fuel and power replacement

Process Optimization:
- Joint-funded USDA- NIFA/DOE-EERE Biomass Board 9008 Research Program
- AFRI Sustainable Biomass CAP

Mr. KINGSTON. Thank you. Mr. Farr.

NATIONAL ARBORETUM

Mr. FARR. Thank you, Mr. Chairman. I always tell my friends and family back home that if they want to come to Washington, this is the wow city, the best wow city in the world for people to visit, and I am just thinking that the biggest wow week is right now, and it is all about living things. It is called our cherry blossom festival, and it is wow. But we have a park, essentially a park that is wow year round. It is called the arboretum, the National Arboretum, and I am very concerned that our government—and ARS is responsible for funding it—is ignoring it. It is falling apart. It has good partnerships, but we have a lot of bureaucracy, and so I have some concerns, and I have a couple things.

Would it be better managed outside of ARS? I mean, should this be something that the Forest Service manages or Parks Department or something like that, because it really needs stronger leadership and a hell of a lot more support.

Dr. WOTEKI. Well, we agree that the arboretum is a really unique and precious place. There is some construction that is being done now, renovating the office space that was made available through funds under the ARRA Act. To the question of could it be managed better outside of ARS, I think that we view the arboretum as being an important part of ARS's research programs.

Mr. FARR. But a couple concerns. For example, the national grove of State trees, which was planted back in the early 1990s, the project, you know, involved making paths, signage, it is very—people come asking about it. It is a 20-acre plot. The signage and pathways have never been completed, and neither the Forest Service nor the National Association of State Foresters have been willing to provide the necessary maintenance funds to preserve the grove. As a result, the grove is neglected, it is unsightly, and yet it is one that the visitors are interested in seeing an example of trees from each State.

How can we get that done? Could you talk to the Secretary about getting the Forest Service to provide the funding to improve the grove, make the necessary signage, maps, pathways that would make this a destination visitors from around the country would like to see? Who is going to provide the leadership for that?

Dr. WOTEKI. Well, we have a new individual this past year named to head the arboretum, Dr. Colien Hefferan, and one of her assignments has been to develop a plan for the future of the arboretum.

NATIONAL GROVE OF STATE TREES

Mr. FARR. This is just the national grove. We already have a plan for that, it is just that nobody has implemented it.

Dr. WOTEKI. And we will look into the grove. If Dr. Knipling is prepared to respond, he could respond now. Otherwise we will provide you with information in follow-up to this hearing.

[The information follows:]

The National Grove of State Trees was established at the U.S. National Arboretum, a research and education facility of the Agricultural Research Service in Northeast Washington D.C., on April 25, 1990. The Grove comprises sets of 4 to 10 trees from almost all of the 50 states and the District of Columbia (6 states have a substitute tree because their state tree cannot be grown in the mid-Atlantic region). The Grove, which spans 30 acres, is located near the Southern boundary of the grounds beyond the central meadow of the Arboretum. It is adjacent to major a parking lot at the no longer utilized M Street Entrance, and is near the heavily used picnic area of the Arboretum.

Establishment of the Grove was a joint effort by the U.S. Forest Service, American Forestry Council (primarily representing State Foresters), and the U.S. National Arboretum to design the exhibit and procure and plant the trees, establish interpretative information, and maintain the Grove. Early into the project, the American Forestry Council ceased participation. The Forest Service continues to provide support, including $16,000 in FY 2011, to partially support maintenance of the Grove.

The Grove is intended as a demonstration of the various environmental benefits of trees and as a testimony to partnerships to enhance understanding and awareness of the natural environment. It features a horseshoe-shaped stone structure on which each state's tree is identified and a pressurized pine arbor at the entrance. Two of the state tree plaques on the stone structure are damaged and the pine arbor is aging poorly. A map identifying the location and name of each state tree is available to visitors at the Arboretum's information desk. Although the Grove is a frequently visited feature of the Arboretum, most visitors appear to be most interested in seeing the trees of a specific state rather than visiting the Grove as a consolidated collection.

During the past year the National Arboretum has completed extensive work on the trees in the Grove. In the fall many of the trees were professionally pruned during a day of highly valuable service donated by the Bartlett Tree Expert Company. During the past winter and early spring, the trees have been mulched and the grove area lawns manicured. There are concerns remaining with the pine arbor and the adjacent picnic area, both of which could be addressed through private donations or renewed partnerships in support of maintaining this feature of the Arboretum. In addition, there is opportunity for expanded interpretative signage at the Grove.

Recently, the U.S. National Arboretum and the Friends of the National Arboretum have been working collaboratively to complete construction of the Flowering Tree Walk, a paved pedestrian pathway which will completely link the many garden features around the central core of the grounds, including the area near the Grove of State Trees. This privately supported project will provide an opportunity to better connect the Grove to other popular collections at the Arboretum and expand its role as an educational element of the Arboretum's features. The Grove is also near the Washington Youth Garden (WYG), which has been literally and conceptually expanding its activities in the direction of trees by adding fruit trees to its collection. The WYG is another partnership activity which could expand its emphasis to include the assets of the Grove as a teaching tool.

The National Grove of State Trees is one of many assets of the U.S. National Arboretum which could benefit from expanded partnerships and shared public /private support. This year, through donated services and financial support from the U.S. Forest Service, the National Arboretum has been able to perform essential care of the trees and improve their surroundings. This is a strong model for how long-standing collections can be sustained and maintained at the Arboretum.

RECOGNITION OF DONORS

Mr. FARR. Would you also give us some information of why the Department seems to have a strict limit and rules about recognition of donors? I have a lot of—for example, the National China Foundation has entered an agreement to raise millions of dollars to install and maintain the China garden, at the same time the Friends of the National Arboretum are working with the arboretum on major revisioning of the arboretum that would put the arboretum on a more long-term, sustainable, financial footing. But they are not allowed to—your rules don't allow any recognition of donors or any signage on the grounds. Why is this restrictive policy? Where does it emanate from? Is it a Department policy or some other source of restrictions?

Dr. KNIPLING. Mr. Farr, there are some statutory limitations, and we are actually, as a part of our renewed master planning, looking at those additional authorities that we need. We are looking at enhancing the public-private partnerships, and maybe even work toward a new funding model for the arboretum. We share your concern about the long-term.

[The information follows:]

Through a series of laws enacted by Congress, the Secretary of Agriculture is authorized to accept gifts, voluntary services, bequests, and other devices of real and personal property made for the benefit of the U.S. National Arboretum (USNA). These authorities have been delegated to the Director of the Arboretum.

In the building, development, and maintenance of the National Arboretum's gardens, collections, and programs, many elements such as gardens, pavilions, courtyards, gazebos, and benches have been and continue to be donated as a result of the fundraising and donation solicitation efforts of the USNA and its stakeholder groups such as the Friends of the National Arboretum; the National Capital Area Garden Clubs, Inc.; and the National Bonsai Foundation. Solicitation, acceptance, and recognition of these donations are accomplished in a variety of ways.

As a part of the Department of Agriculture, permanent donor recognition signage at the National Arboretum is guided by departmental policy DR5160-002. Further, as a Federal institution, the USNA must comply with Federal donor recognition policies as outlined and overseen by the National Capital Planning Commission (NCPC) and the Commission of Fine Arts (CFA). The USNA has worked with these groups to create, for example, the ***U.S. National Arboretum Signage Master Plan*** and for a specific collection and program, the ***National Bonsai & Penjing Museum Signage Master Plan***. These plans specify the location and style of all signage, including in the bonsai museum, a system that provides a format for donor recognition.

Based on the above noted regulations, the current USNA Donor Recognition policy states that monetary donations will be recognized according to a three-tiered system of categories defined by the Arboretum: (a) Lower level category donations appear in the Kiosk; (b) Middle range category donations receive a subordinate listing on the Donor Display, as well as mention in the Kiosk; and, (c) Highest level category donations receive a prominent listing on the Donor Display and a description in the Kiosk. The Donor Display is a multi-panel changeable display in the Administration Building lobby and other Director-designated locations (such as the National Bonsai & Penjing Museum's education and exhibit pavilion) that acknowledges the highest categories of donations. The Kiosk is a digital interactive station in the Administration Building lobby and other Director-designated locations that may contain a searchable database of donor information.

Temporary signage or acknowledgements in brochures and handouts to recognize sponsorship of exhibits or special events are permissible and have been done at the National Arboretum. The placement and aesthetics of temporary signage are still reviewable by CFA and NCPC.

NATIONAL ARBORETUM STRATEGIC PLAN

Mr. FARR. Every year I have been on this committee, the Congress has had to kick the Department on these issues, and it just seems to me, this is where I question whether the leadership, whether it is appropriate to be an ARS mission. I don't think that you are providing the leadership, the passion, where you have got a lot of outsiders who are willing to help, including the arboretum, the Friends of the Arboretum. They have a party there every year, Congress Members turn out. We are just appalled at sort of we have this treasure, and we are not treating it very well. That is why, if you have all these ideas, why is it taking so long to come to us and tell us what we need to do? Because the leadership is lacking, I will tell you, it is appalling that it is lacking. If you don't want to do it and do it in a way that is responsible, then find another Federal agency that will take it up and put it in their budget and fight for it.

Dr. KNIPLING. We are very much exploring these mechanisms. The arboretum is really a two-pronged program. It has got a public face, a garden. It is also a research site. We have strong development of improved nursery types, genetic resources, and so forth. We have found, under budget constraints, that the—in terms of research priorities, the public garden aspects of things have not risen to a high priority under the budget planning we have been having to do. So we would welcome this committee's help in helping us evolve these plans.

Mr. FARR. We cannot help you unless you want to help yourself, and that is the point. Where is the passion coming to this committee and saying, this thing is a national treasure, it has got a lot of private sector and nonprofit support, and we need you to help us. We were talking about matching grants here and how you can leverage, and yet there is no discussion coming back to us and telling us how to leverage the arboretum.

Come on, take some responsibility and let's make this a national asset that the rest of us appreciate that it is. I look forward to some passion in your ask for Congress of how to better manage it.

Dr. WOTEKI. Mr. Farr, we would be happy to sit down with you and go through our plans for the arboretum.

Mr. FARR. I think the whole committee would like to hear them, but I will be glad to hear them as well.

Dr. WOTEKI. And the whole committee as well.

Mr. KINGSTON. And we would be interested if you have, again, sort of a five-point plan or whatever it is, we need to know what you are up to.

[The information from USDA follows:]

The U.S. National Arboretum (USNA) is currently developing a new Strategic Plan. The Strategic Planning Committee consists of USNA employees, Agricultural Research Service's National Program Staff, Directors and Curators from other Arboreta and Botanical Gardens, and key representatives from several stakeholders. The Committee will take into account responses from a survey conducted by the University of Delaware of 2,600 Arboretum stakeholders. USNA has also assembled a national program peer review panel to assist with the writing process.

The plan will address the issue of promoting and ensuring that the public understands and appreciates the relevance of the U.S. National Arboretum to stakeholders and the public. The plan will also include strategies to develop and communicate the 'national' aspect of the USNA's mission and strategic direction. Several objectives and strategies to enhance the visitor experience of the USNA will be addressed in the plan, including those that help improve amenities, public access, and visitor services on the grounds; suggestions on ways to enhance the public display garden experience; as well as to build on the best practices of other similar premier institutions to design a dynamic and appealing menu of visitor offerings. The goals to increase the public and stakeholders' awareness and engagement with the USNA and its services and strategies to ensure the long-term sustainability of the USNA are also included in the draft plan. The plan will be released to the public in draft form by July 1, 2012 and will be open for public comment for 60–90 days before being finalized.

INTRODUCTION OF CANADIAN SENATORS

If I could suspend the hearing just briefly, we have been joined by two very distinguished guests here, and we are very glad to have with us two Canadian Senators from the Liberal Party. Mr. Terry Mercer is here who actually represents the Nova Scotia area, and he is the chairman of the Liberal Caucus in the Canadian Senate. And we have Senator Frank Mahovlich who—I am not sure where your area is that you represent.

Mr. MAHOVLICH. Ontario.

Mr. KINGSTON. Ontario. But a very distinguished hockey player, and you will be glad to know we have a hockey team here in Congress that recently defeated the police or the lobbyists. I cannot remember who they beat, but it was a very important thing. But I noticed that you have a very long and distinguished career, both of you, and we are glad to have you with us.

Mr. MERCER. Thank you.

Mr. MAHOVLICH. Thank you.

ROLE OF ECONOMIC RESEARCH SERVICE

Mr. KINGSTON. With that, I have a couple of questions that I wanted to start with you, Dr. Bohman. This is a frustration of our committee that often when we ask USDA questions, that sometimes some of the agencies just have neutrality; other times they say, no, you need to do this, you need to do that. Now, Economic Research Service, among other things, do you not evaluate Farm Bill programs?

Dr. BOHMAN. Thank you, Mr. Kingston. The Economic Research Service provides analysis of the agricultural sector and policy options, but we don't do program evaluation per se so that we would—that is left to the agencies that administer the programs. However, we often work with them in looking at specific provisions, when invited. For example, we work with the Farm Service Agency to do research on the implications of not paying payments on farms with less than 10 base acres, or looking at planting flexibilities related to specialty crops.

Mr. KINGSTON. So you don't do, say, macro-programs on how effective the cotton program is or the peanut program?

Dr. BOHMAN. No. The program evaluations response for the——

Mr. KINGSTON. But you would do more minor, kind of troubleshooting-type studies, like you are saying, making payments to farms of less than 10 acres?

Dr. BOHMAN. We look at issues that are emerging and important on the development of new policies, and then we are often invited to participate in studies, given our expertise.

Mr. KINGSTON. Well, what this committee would be interested in is where do you get the most bang for the buck and where is it wasted? Where are we squandering energy and personnel, and do you have such a list of the really good programs or the really poor programs? Not necessarily the big program, but, you know, the smaller stuff that you are talking about.

Dr. BOHMAN. The role of the Economic Research Service is to provide frameworks, information that can be used to analyze the farm sector, its efficiency and production, new areas of technology, the changing structure of farms and how this relates to government programs, but we don't rank programs that exist. We believe that the information we provide can do this, and one of the things that we focus on in developing our programs is maintaining a strong core of information on the farm sector, working in collaboration with NASS, that can be used to look at a multitude of issues.

Mr. KINGSTON. So you don't know of any source that we could go to to find the answer to my question?

Dr. BOHMAN. Find a ranked list, no.

Mr. KINGSTON. You could do that if we instructed you to do that, though, correct? I mean, it would be—if we wanted to instruct an agency to do it, it would be you, or would there be somebody else within USDA who would be better to do that? Because I think all of us would like to know, well, what programs have outlived their usefulness and which ones are great, because everybody who comes to see our office as appropriators say, "You know, for every dollar you invest, you get a $33 return." And if that was the case we would just be swimming in surplus. But I am talking about everybody. It does not matter what your program is.

Dr. BOHMAN. I think that would be a question to ask the Secretary, and he could—we would be glad to be part of that. One challenge that comes up in program evaluation is what are your objectives and criteria. And we find in the ag sector it is a very diverse country in agriculture, that stakeholders have different criteria. There can be focus on the income support objectives, could be focus on the diversity of the sector and support for socially disadvantaged farms, there can be priorities around conservation. And our work has tried to look at the intersection of these priorities and where you get the biggest bang for the buck in terms of the types of programs that would meet different objectives.

Mr. BISHOP. Will the chairman yield?

Mr. KINGSTON. Yes, but if you have that information, that would come close to being useful to us because I understand, hey, this program is not a great investment, but it does have another advantage. Yes, sir?

Mr. BISHOP. Mr. Chairman, in the past I know that a number of the farm programs, going into Farm Bill years, have been evaluated by CRS, and they have done extensive research and studies and analysis on the effectiveness of various of the programs that are funded through the Farm Bill. And over the years, CRS was helpful with that. I would imagine also that the Inspector General could also shed some light on some of it, but overall I have seen a study particularly on, for example, the peanut program, three Farm Bills ago, where they laid out the pros and the cons, and they did a very extensive analysis. But given the fiscal circumstances that we are under now, the CRS would only do it on the request of the subcommittee.

Dr. BOHMAN. If I could just add to Mr. Bishop's comment that ERS research is used by these other groups. If you pick up a CRS report that looks at a specific farm program, you will often find that they draw heavily on ERS research. They have a recent report looking at programs that support local foods which cites and quotes from several of our studies that we have put out. And this is something that for ERS we want to be useful to the different types of groups that have various objectives, and they all turn to our analysis and programs, and they use it in their own ranking that are based on their goals and objectives for the farm policy and farm sector.

Mr. KINGSTON. All right, thank you. I am out of time. Mr. Farr.

USDA RESEARCH

Mr. FARR. Mr. Chairman, thank you very much. I know it is coming to an end. I also want to welcome our Canadian visitors. This is the Agricultural Appropriations Committee. The Department of Agriculture has seven divisions. This is one. This is the research, mostly the research division. It is a budget of about $2.6 billion. So we are going through it, and with your background, Senator Mercer, with the Toronto branch of the Diabetes Association and your work in the Lung and Kidney Foundations, we always think that agriculture is the first responder to health care, if we could get people in this country to eat right and exercise as well as your colleague did, Mr. Mahovlich, we would be a much healthier Nation and we would not have to spend so much on health care. So this hearing is to look at how we are spending our research dollars and how we can get the best bang for our buck. So we welcome you to this as well, and it is always a pleasure to see a conservative chairman welcome the chair of the liberal faction.

Mr. KINGSTON. I just want to know if they are for the Keystone pipeline or not.

Mr. MERCER. We will talk.

Mr. FARR. I would just like to comment that you have a lot of wonderful responsibilities and exciting ones, and as I indicated in my opening remarks, that research is really the forefront of the future. I just think you could do a better job of explaining the value of it. I mean, this return that Mr. Kingston talked about, it is amazing that in your testimony, you claim that we have for every dollar invested, we get a $20 return. We need to explain that better.

We also need to be more passionate about the things you are doing and the breakthroughs that you are making, and when you are managing essentially a park like the arboretum, let's have the passion that the Yosemites and Grand Canyons have for it. This committee would be very supportive if we could hear some of that. So I appreciate this hearing today and look forward to working with you.

Mr. KINGSTON. Mr. Bishop.

CLOSURE OF ARS FACILITIES

Mr. BISHOP. Thank you very much. Let me turn to a little bit different subject area, to Dr. Knipling, to say that there is concern about the ARS facilities being closed, and the folks that are being impacted by those decisions is an understatement, but I would like to focus attention on an equally important concern, which is the need for adequate funding to maintain the more than 90 remaining ARS facilities around the country and around the world, to maintain them in good working condition.

The work that the scientists at these facilities do is critical, and while you have increased your request for repair and maintenance of the ARS labs and facilities by $3 million, those of us who have ARS facilities in our districts know that that amount alone will not solve the challenges.

So can you talk about the process that is used to identify which of the labs are being closed, if the employees at a lab have brought in funds through grants from other agencies? How, to what extent does that get considered in your decision? Also, what work has the Department done to build public and private partnerships that will help with the cost of maintaining the facilities where you may be faced with a decision to close a particular facility?

Dr. KNIPLING. Well, let me acknowledge that the closures, laboratory closures that we are dealing with this year, and one of which is in your State, Watkinsville, Georgia, in part were based upon a criterion of facility condition. But there are many other criteria that drive that, more research priority.

With regard to the facility investments themselves, the infrastructure, sustaining, maintaining that, we spoke earlier before you arrived about a study we have been doing for the past year. And we will soon be submitting a formal report to this committee on a capital investment strategy, and we very much appreciate this committee requesting that report because it gives us an opportunity to really express the importance of our facilities and infrastructure to sustain the important work we do, but also the very important point that we need to continually invest in these facilities to maintain that capacity.

The life cycle of a research facility, or any structure for that matter, is probably 35 to 40 years, and they have to be not only maintained in terms of repair and maintenance sense all along the way, but they need to be recapitalized after that period of time. So this strategy report does outline the criteria, the principles, the process, that we are going to invest in future facilities and for maintaining them and sustaining them.

Mr. BISHOP. So that deals—and I appreciate that answer—with the physical facilities. What about the value of the research that is being conducted there? I guess you make the decision based upon the age of the facility and the useful life of the building.

I think in the case of Watkinsville, the University of Georgia, I think, has taken over that facility. Will they have resources from ARS to continue the work that is being done there? While it will not be an ARS building, but will they be conducting—would you have your people conducting research in a building that is maybe owned by the University of Georgia?

Dr. KNIPLING. In regard to your second question, there—no, there is no precommitment that USDA will support the University of Georgia or whatever institution takes over that property. We are going through a process right now where the University of Georgia has made application and expressed their interest in assuming the ownership of the property. That is not a complete agreement yet, and we have to go through many steps, but that is one possible outcome. But once we transfer that to a new ownership, there is no commitment from USDA to either operate the facility or support the program that might be carried out in it.

Mr. BISHOP. But it would work your—work with your fiscal austerity, I guess. You would save money by utilizing, by divesting yourself of the property; but obviously you felt that the research that was going on there was valuable at some point. But could you reevaluate that and possibly get funding through maybe some programmatic support of some sort?

Dr. KNIPLING. Yes, that is always a possibility, and that brings in other principles and criteria for decision making other than the facility per se. It would be more of a programmatic research priority, what is the most cost-effective way to get the research done.

Mr. BISHOP. But your decision was based primarily on the age of the facilities?

Dr. KNIPLING. That was one criterion, but not the major or the only criterion for closing laboratories. It is probably more driven by research priorities and the need to invest those resources elsewhere.

RENEWABLE ENERGY RESEARCH

Mr. KINGSTON. Well, staying on that vein in terms of the University of Georgia, I know that they are part of—I think it is a seven-university collaborative on complex carbohydrate research, and recently the USDA actually highlighted some of their plant cell research, and the article said, and I quote, “This discovery gives researchers a key to understanding plant development and could lead to improvements in the methods used to break down carbohydrate structures into fermentable sugars used to produce biofuels.”

Now, it sounds to me like they are saying this is a good discovery, but a long way to the gas pump. However, the USDA has also recently awarded two grants or two loans, $232 million for ZeaChem Boardman biorefinery in Boardman, Oregon, and then a $25 million loan guarantee to Fiberight in Blairstown, Iowa. And it seems to me that those loans are getting ahead of the game in terms of where we are with the science. Is that—am I wrong on that?

Dr. WOTEKI. Mr. Chairman, I am not familiar with these particular loan guarantees. They would have come, I believe, through our Rural Development agency and program. The Under Secretary for Rural Development, Dallas Tonsager, and myself do participate with the Department of Energy in all of the BRDI-related activities, the Biomass Research and Development Initiative, and I would like to look into this.

Dr. JACOBS-YOUNG. I can answer a question about the science piece.

Mr. KINGSTON. Yes.

Dr. JACOBS-YOUNG. I could actually speak loudly if you would just like me to. I will tell you that there is a lot of ongoing research on how to break down carbohydrates, and we can always be more efficient about how we go about it, because we want to bring the price of the resulting fuel down, so I would say we will continue to do research on carbohydrate chemistry. So the two parts, they might be using a different conversion process, but the basic fundamental understanding of carbohydrate science is ongoing, and so we still have processes that are underway that have a lot of interference, and so it is not as efficient as it could be, and so we need to better understand the fundamentals.

Mr. KINGSTON. But would you have sat on this loan review program the way you do at the Department of Energy?

Dr. JACOBS-YOUNG. No.

Mr. KINGSTON. So this was done separately. I think that is what our concern was, if the science is not ready, this is a lot of money to be guaranteeing.

FOOD SAFETY/GENETICALLY MODIFIED ORGANISMS (GMO)

Let me ask you another question, sort of going full circle back to the original questions that Mr. Farr and I had. You are familiar with this corn borer worm which, as I understand it, there was a bacteria that attacked this worm, the worm would get into the roots of corn, and so using genomics, we isolated the bacteria that killed the worm and then injected it into the seed of the corn, and now is it called BT corn?

Dr. WOTEKI. Yes.

Mr. KINGSTON. Okay, so now we have BT corn, which is corn borer-resistant, and that is an example of the great science that is out there in terms of higher production, less pesticides, less fertilizer and things like that, and that is genetically engineered corn.

Dr. WOTEKI. Right.

Mr. KINGSTON. Is this safe? Is some of the—and I don't want to call it—dismiss it as hysteria; but some of the suspicion of it that has prompted the labeling referendum in California, is that overblown concern? Is the science sound and safe in terms of the product?

Dr. WOTEKI. Yeah, in terms of this particular product, the BT stands for bacillus neurogenesis which is a toxin.

Mr. KINGSTON. Let me interrupt you a little bit. Not so much as that in particular, but I am talking about the whole field.

Dr. WOTEKI. Generically?

Mr. KINGSTON. Just using that as something, as an example of something very positive that came out of a lab, which people should understand the importance of this in terms of the world's food supply.

Dr. WOTEKI. So speaking generically about the experience that we have had with genetically engineered crops, that experience is now over a period of 20 years. We have seen new varieties of disease-resistant, pest-resistant crops that have been produced as a result of genetic engineering, and all of those products are safe for human consumption.

Mr. KINGSTON. And are you satisfied that before anything goes to market, that the science is sound, and the food safety has been reviewed by you guys, FDA, or whomever else in the chain, to make sure that American consumers or anybody else who is eating the food is going to be safe?

Dr. WOTEKI. Well, the regulatory process that the U.S. has had in place now for several decades for genetically engineered food products, has focused on whether the end product, how similar, or different that is, from the conventionally grown product, and that has been the basic premise of the regulatory decisions about introducing them from the human safety perspective.

The Department also has responsibilities through the Animal and Plant Health Inspection Service for approvals of varieties, as does EPA when there are pesticidal aspects of the engineered—genetically engineered crop. So among those three regulatory agencies, they are looking at the safety as far as the human consumption goes, as well as the safety of the introduction of these genetically engineered crops into the environment, and we have a good track record.

Mr. KINGSTON. All right, I am out of time. Mr. Farr or Mr. Bishop.

Mr. KINGSTON. I think it might be Mr. Bishop.

Mrs. EMERSON. I haven't asked a question at all.

Mr. FARR. I just want to follow up and say that I think, as we said in the early—with California's initiative we are going to have to be much more up front in leadership on the pros and cons of this, of whether we need to label it. You know, European markets are requiring it, other places are requiring it. I don't know what Canada does with GMOs, but it is a big political issue, and we need the education to make smart choices.

Mr. KINGSTON. Mr. Bishop.

1890 LAND GRANT INSTITUTIONS

Mr. BISHOP. Thank you. Let me bring my attention to the 1890 land grant institutions and their ability to access funding increases. Since 2008, the 1890 land grant institutions have been eligible for competitive grant programs that were funded under the Smith Lever treaty, including Children, Youth, and Families At Risk program, the AgrAbility, the Youth Farm Safety Education and Certification program, and the Extension program.

We are now 4 years later. Are the 1890 institutions competing successfully, and are they now receiving funds through these programs? That is the first part of the question.

And the second part is, you know, while I support increased funding for the agricultural research, I am concerned that the consequences of your proposal to increase funding for AFRI, which are generally extremely broader eligibility requirements and it tends to make larger grants. By eliminating a funding for the integrated programs like water quality, which have more limited eligibility and tend to make smaller grants, whether or not that will in effect reduce the ability of the 1890 institutions to access increased funding?

Can you kind of talk about whether or not that is a concern that you have heard from stakeholders and how, if you have, you plan to deal with it?

Dr. JACOBS-YOUNG. Thank you for the question, Congressman Bishop. So our relationship with the 1890s, especially the 1890 land grant institutions is a strong one, and we have been working tremendously with outreach to the 1890 community. I am a member of the 1890 task force, which is a task force that has been created by the Secretary to partner with the presidents of 1890 institutions. And we are in continued conversations about how to improve the participation in the competitive program.

And so one of the things that I work myself personally to communicate is the competitive advantage that our minority-serving institutions have in the competitive program. We have 10 percent set aside, specifically for minority-serving institutions, and while we have—there is a success rate of AFRI of 20 percent, you know, on a good day. So there is a lot of effort that goes into the 80 percent of the proposals that don't get funded.

But what we understand is that if we have more proposals from minority-serving institutions, we have a better opportunity of funding them.

I like to say that in my time as the national program leader, 10 years ago working with Fort Valley State University with the bioenergy program, and then here last year, they came—they ranked high in the programs, it wasn't a set-aside, and they have a multimillion-dollar coordinated agricultural project on bioenergy.

Mr. BISHOP. And we appreciate that too.

Dr. JACOBS-YOUNG. But that is what outreach can do when you start working with the communities and really building that trust factor.

Mr. BISHOP. I guess what I was getting at was—AFRI, of course, with the broad eligibility and the tendency for larger grants, may lend itself to a larger institution as opposed to the more limited eligibility in the smaller grants. And I was wondering if——

Dr. JACOBS-YOUNG. Yeah, Fort Valley probably blew that hypothesis.

Mr. BISHOP. Fort Valley is just one of the 1890s.

Dr. JACOBS-YOUNG. Yes.

Mr. BISHOP. And we hear from all of them regularly that they just don't have the support for capacity-building that they would like to be able to get from the Department.

And so what we are trying to do is we want to enlist your help with real capacity building, which would be long-term, because the traditional land grant colleges and universities have always dominated and have gotten, you know, for hundreds of years, the massive funding; whereas, 1890s have sort of been the stepchildren and we are trying to equalize that.

Dr. JACOBS-YOUNG. And I also want to say Southern University is a collaborator on the $40 million bioenergy project, and so we are seeing some trend. The trajectory is going in the right direction. The slope is not where we want it, so we do have much more work to do.

Mr. BISHOP. Thank you.

Mr. KINGSTON. Ms. Emerson.

POLICY CENTERS

Mrs. EMERSON. Thanks, Mr. Chairman. I apologize for being late. I had to run my own subcommittee hearing today so I was racing to get here. I have got one question. I think probably to Secretary—to the Secretary. The recent award of funds under the policy centers authorization, which the subcommittee funded for the first time last year for $44 million, I believe. As you may know, there are a handful of policy centers that have traditionally worked on behalf of the Congress to provide analysis, farm programs, changes in agricultural policy, et cetera, and these would be FAPRI, RUPRI, Agriculture Food and Policy Center. And so anyway when they made their applications, they got kicked back for lacking novelty, not being innovative enough. But you know, the real reason these organizations exist is to provide some outside assistance, independent thinking for us in Congress as we write farm bills, and so I believe it was very shortsighted of the Department to not take that into consideration.

But with that being said, I guess my question is, should there be additional guidance from us, that we suggest to you that we need it for congressional purposes as opposed to you all making that decision for us?

Dr. WOTEKI. As you know, the history on this is that the policy centers, RUPRI, FAPRI, were supported by earmarks which were eliminated in 2011 during the appropriations process. The competitive grants program under which this new decision was made for funding five policy centers was based on that program being put within our competitive grants program. So the decisions about which proposals were funded were based on the merits of them as determined by a committee of peer reviewers.

So there are five policy centers that the peer panel had recommended for funding, and through NIFA, they have just recently announced which of the proposals will be funded.

Mrs. EMERSON. Right, I understand that, but I also understand the fact that—I don't know if the application process was misleading or what, but I know that these organizations, you know, did say as part of their pitch, if you will, that they have traditionally assisted the Congress, which was a detriment in the competitive process. And I believe if you could describe to me the organizations which did receive these competitive grants, I don't believe that any of them necessarily would be in a position to help Congress by having an independent outside organization do analysis as we try to write a farm bill.

Dr. WOTEKI. Well, I can provide for you the list of the awardees that has been made public. Oregon State University, in partnership with U.C.-Davis; the University of Nebraska at Lincoln; Iowa State University, which was one of the preexisting earmarked policy centers, did have a successful proposal; Penn State University; and University of Minnesota.

POLICY RESEARCH CENTERS PROJECT SUMMARIES

Mrs. EMERSON. And could you tell me what it is that they proposed doing? I mean, the institutions are all wonderful institutions.

That is not the point. The point is what analysis, or what programmatic work do they do?

Dr. WOTEKI. And I think we can provide that for the record.

Mrs. EMERSON. All right, I would appreciate that. Thank you. I am done.

[The information from USDA follows:]

Below are synopses of grant proposals awarded in FY 2012. This information comes from the USDA's Current Research Information System (CRIS).

The Center for Agricultural and Rural Development (CARD)
Iowa State University
$768,000

The Center for Agricultural and Rural Development (CARD) at Iowa State University (ISU) has an exemplary history of providing analysis of the most important policy issues facing U.S. agriculture. We propose to continue policy analysis as a Policy Research Center (PRC) with an emphasis in all four areas: farm and agriculture; the environment; rural economies; and consumers, food, and nutrition. The over-arching goal of this PRC is to provide stakeholders with timely, objective, and rigorous economic analysis of the most important policy issues facing U.S. agriculture. The need for the proposed center has never been greater. World food demand continues to grow with incomes and population, resulting in increased demand for U.S. crops and livestock products. Agriculture is also being asked to provide bioenergy (biofuels and bioelectricity). This new demand intensifies land competition and has added to the degree of revenue uncertainty facing crop and livestock producers. At the same time, society expects safer food, increased animal welfare, reductions in agriculture's contributions to water pollution, and increases in soil carbon and wildlife habitat. With new federal and state budget constraints, agriculture needs to meet these objectives at minimum cost to the taxpayer. Agriculture is a key contributor to economic activity in rural communities, and changes in agricultural policies can potentially alter the economic future and viability of these areas. A key challenge facing the United States and the world is how to design efficient policies that facilitate meeting these objectives in a land- and budget-constrained world facing difficult-to-quantify challenges from climate change. Research provided by the Center will contribute to providing policy solutions to these fundamental challenges.

National Agricultural and Rural Development Policy (NARDeP) Center
Pennsylvania State University
$768,000

With conflicting perspectives on economic, social and environmental public issues, agricultural and rural development policy deliberations have become increasingly contentious even as fiscal policy becomes more restrictive. At the same time, one-size-fits-all policy analyses and modeling can mask critical differential impacts on regions and disadvantaged groups, further raising the stakes. With globalization and the social media movements, new issues are rising to the fore much more rapidly than in the past. In response to these challenges, we propose to create a flexible national network of on-call research expertise, supported by a strong stakeholder input-gathering and dissemination infrastructure.

The four Regional Rural Development Centers will leverage their existing research, policy analysis, and information delivery capacities to rapidly respond to emerging and longer-term policy questions. The centers have deep working relationships with land grant higher education institutions nationwide, including tribal and historically black colleges and universities, providing ready access to a highly functional national pool of disciplinary researchers. This is a proposal for a ***multiple area emphasis*** policy research center. The National Agricultural and Rural Development Policy Center will emphasize: rural families, households, and economies; farm and agricultural sectors; consumers, food, and nutrition; and environment. We will use Advisory Councils consisting of leading social scientists and policy practitioners for priority setting, and faculty for special studies. Faculty consulting arrangements are less expensive (no need for full time staff); incur lower transactions costs; are more flexible; and recognize the fact that faculty time is valuable, and scarce.

Center for Agricultural & Food Industrial Organization - Policy Research Group (CAFIO-PRG)
University Of Nebraska-Lincoln
$766,166

This application proposes the establishment of a multi-area policy research group (PRG) led by the Center for Agricultural & Food Industrial Organization (CAFIO) at the University of Nebraska-Lincoln (UNL). CAFIO-PRG will develop: a novel, empirically relevant, integrated, multi-market framework of heterogeneous producers, heterogeneous consumers, and imperfectly competitive firms; and properly designed choice and laboratory experiments to analyze important policy issues in six research projects covering the four public policy emphasis areas identified for the USDA's Policy Research Centers Grant Program. These approaches will examine the market potential and optimal regulatory response to food nanotechnology (Emphasis Area 4), producer behavior and design of policies related to downstream water pollution issues (Emphasis Area 2), least-cost policies to facilitate commercialization of biomass crops for energy (Emphasis Areas 1 and 2), the impact of agricultural policies on entrepreneurship and the economic development of rural communities (Emphasis Area 3), and producer response to various risk management policies and tools (Emphasis Areas 1 and 2). CAFIO-PRG will leverage expertise from a consortium of 5 other Centers at UNL involving 11 Faculty. Educational impact will largely be through the training of 6 graduate students/postdoctorals as part of the research. Research findings will be published in peer reviewed journals. Relevant analysis and information will be disseminated to policymakers and non-governmental organizations as well as businesses, producers, and consumers through numerous outlets including substantial extension and outreach education efforts. An external advisory board will provide both guidance and evaluation of outcomes.

Food Policy Research Center
University of Minnesota
$617,884

The University of Minnesota (UMN) Food Policy Research Center will perform integrated analyses of food and nutrition policies, in the emphasis area of **consumers, food, and nutrition**. The Center will leverage the UMN Global Good Initiatives in food, health, and sustainability by bringing together the breadth and depth of expertise across our College of Veterinary Medicine; College of Food, Agricultural and Natural Resource Sciences; School of Public Health; and Humphrey School of Public Affairs, and 20 participating Centers and Institutes. Our Integrated Policy Research Teams will produce integrated assessments of the impacts of food- and nutrition-related public policies and trade agreements on farmers, ranchers, consumers, and taxpayers that will benefit the farm and agricultural sectors; the environment; rural families, households, and economics; and consumers' nutrition and access to abundant, safe, and healthy food. The Center's education program will train new analysts with an understanding of policy analysis approaches from biological, public health, environmental, and economic perspectives combined with practical experience with integrated policy analysis. The information dissemination plan provides for timely, accessible transmission of research findings to policymakers, analysts, and other individuals through white papers, publications, testimony, informational workshops, and use of traditional and social media. Key outcomes of the rigorous, comprehensive policy research will be an expansion of policymakers' understanding of the impacts and trade-offs associated with national policy and regulations options in the complex topics of food and nutrition. The broad perspective offered by our systems thinking will help policymakers to steer clear of the unintended impacts of complex policy decisions and to design effective, cost-effective policy surrounding food and nutrition, and their relationship to issues of environment, the farm and agricultural sectors, and rural communities.

OSU-UC Davis Partnership for Agricultural and Resource Policy Research
Oregon State University
$910,260

The design of socially responsible public policy requires a comprehensive, rigorous, and timely assessment of its economic, environmental and social impacts. This project will address this need by establishing an OSU-UC Davis Partnership for Agricultural and Resource Policy Research. The mission of the Partnership will be to provide the highest quality, objective economic analysis of critical public policy issues on agriculture, natural resources, environment, food systems, nutrition, and technology. The Partnership represents an institutional innovation towards productive regional collaborations between Land Grant institutions. The overarching goals are: to help policymakers and stakeholders understand how policies affect the economy, natural resources, the environment, and society; and to provide innovate research focusing on specialty crops, conservation and consumer issues, with an emphasis on the Western United States. The Partnership will cover the four emphasis areas specified in the NIFA request. Our primary approach will be to conduct multi-disciplinary research rooted in economic theory and quantitative methods, capitalizing on the policy experience and expertise of faculty at the two institutions. In the first year, the team will use existing modeling capability to address current policy analysis; in the second year, models will be integrated into a more unified framework for policy analysis. An innovative, comprehensive education and dissemination program complements the policy research. Building on strong institutional support, this OSU-UCD Partnership represents a long-term commitment to policy research and education. The Partnership will provide value to society by supporting informed decision making and reducing the uncertainties associated with future policies.

Mr. KINGSTON. The gentleman seeks time. The pressure is on you.

HISPANIC SERVING AGRICULTURAL COLLEGES AND UNIVERSITIES

Mr. BISHOP. Thank you, thank you very much. Again, going back to this again, the Hispanic Serving Agricultural Colleges and Universities endowment, again NIFA, your request for $10 million to establish an endowment for the Hispanic serving agricultural colleges and universities, the HSACUs, doesn't appear to be adequate. The interest on that would likely be between $1 million, and $2 million per year, and the first group of colleges that NIFA certified as Hispanic Serving Agricultural Colleges and Universities included 52 institutions.

When we created the program as a part of the 2008 farm bill, the idea was that we were modeling it after the Tribal Colleges Endowment Program, but there are only 32 tribal colleges. And their interest was at a similar level. Payments to the schools were between $30,000, and $160,000.

Did you consider changing the way that you defined the Hispanic Serving Agricultural Colleges and Universities in order to reduce the number of eligible colleges, thereby increasing size of the interest payments each school would receive, and how will the interest rate, the interest payment of $30,000 and $60,000, really advance the goals of one of these colleges in a meaningful way? It just seems like it is inadequate.

Dr. JACOBS-YOUNG. Yes. So you know, we entered this information into the Federal Register last year, and then we were accepting comments up until August 11th of 2011, and the proposed rule identified 57 proposed HACUs. So we have since heard from the community that that is a large number, and we need to be a little bit more stringent about the criteria for how we identify these institutions.

This one has to be done on an annual basis because of the evolution of institutions that are moving in and out of the demographic. So you know, this has been a very large undertaking. And so, yes. You know, we also wonder with 57 institutions identified according to the criteria, do we need to do a reassessment of how we have gone about this, and then it will require some review before the next annual review.

Mr. BISHOP. Meanwhile, what happens with the funding?

Dr. JACOBS-YOUNG. Well, so this would not be the only opportunity for Hispanic-serving institutions. We go back to AFRI, which has a 10 percent set-aside. We look at our specialty crop research initiative, so what we—what we are trying to do with outreach to our minority-serving institutions, as well as others, is to not—to build a portfolio on opportunities and not depend on one program for their bread and butter.

So what we can do, and what we are doing is reaching out to the Hispanic-serving institutions to make them aware of our other programs and, where possible, to provide outreach to build the bridges that are needed to help them increase their participation.

Mr. BISHOP. And I do, I recognize that we are in a very tough fiscal environment, and we are really calling on you to do more with less. But I was just wondering how much less that program would take to be effective—to render it ineffective? Thank you.

Mr. KINGSTON. The gentleman's time has expired. Mr. Farr.

Mr. FARR. I have no further questions.

Mr. KINGSTON. With that, this committee stands adjourned.

Questions for the Record Submitted by Chairman Jack Kingston
Under Secretary Woteki
REE Priorities and Accomplishments

Mr. Kingston: In February 2012, you released the Research, Education, and Economics Action Plan. This built upon the previous Roadmap, which USDA was required to develop by the 2008 Farm Bill. While USDA has a very broad research mandate, neither Congress nor USDA can fund every worthwhile or interesting project. What are USDA's most recent top five research accomplishments? How do these relate to the Action Plan? What are the top five research priorities? Please provide specific problems or challenges not just general issue areas.

Response: The Research, Education, and Economics (REE) Mission Area agencies made many notable accomplishments in the past year, so highlighting a few is challenging. Five sample highlights and their respective relationship to the REE Action Plan follow.

Goal 1: Local and Global Food Supply and Security

The future of U.S. agriculture depends on improving production and production efficiencies; helping protect the U.S. crops, livestock, and ecosystems from the threat of exotic pests and diseases; and improving the nutritional quality and safety of domestic and imported food products. The Research, Education, and Economics Mission Area agencies provide information, technologies, analysis, and capacity to enable the U.S. agriculture, food, and fiber systems to produce the food, fiber, and energy to meet growing and changing world demands for these products in an economically and environmentally sustainable manner.

The National Plant Germplasm System. Crop diversity must be collected and safeguarded in genebanks in the form of seeds, bulbs, tubers, and similar forms, termed plant germplasm or plant genetic resources. During the last 5 years, the 20-plus genebanks in the USDA ARS National Plant Germplasm System (NPGS) added more than 70,000 new samples and more than 2,000 new plant species to their collections, bringing to a total of more than 546,000 samples of more than 14,300 plant species being conserved by NPGS genebanks. Scientific interest in this germplasm has increased tangibly during the last 5 years, with NPGS distributing more than 1 million plant samples to researchers and breeders world-wide. These materials are keys for continued progress in crop genetics and breeding requisite for future food security. The information associated with collections of plant genetic resources is also invaluable, describing their biological features, and how farmers and breeders have improved and used them for food, feed, fiber, fuel, and other products critical for humanity. During the last 5 years, world-wide use of the ARS Germplasm Resources Information Network (GRIN) database has more than doubled, from about 750,000 to an average of nearly 2,000,000 distinct visits per year. Furthermore, ARS and its cooperators have transformed GRIN into GRIN-Global, a more effective, easy-to-use information management system for efficient genebank operations. GRIN-Global is currently being implemented in some of the "green revolution" Consultative Group on International Agricultural Research (CGIAR) Centers (e.g., the International Maize and Wheat Improvement Center or CIMMYT) and in national genebank systems in the developing world.

Determining the Evolution of Wheat. Agricultural Research Service scientists and collaborators deciphered the genetic mechanism responsible for the domestication of wheat. This research led to the discovery and subsequent characterization of the genes involved, which includes three copies of a gene known as *Q*. Moreover, this work yielded knowledge regarding how the *Q* genes were recruited through evolution for domestication and enhanced agronomic performance, which will help scientists develop novel crop improvement strategies.

Goal 2. Responding to Climate and Energy Needs

Feedstock production systems for the production of bioenergy and other bio-based products create new and diverse economic opportunities for rural communities. Developing, sustaining, and expanding these systems will rely on multi-disciplined scientific and technical expertise, sound business practices, and a well-trained workforce. Because production systems are climate-dependent to varying extents, the ability to respond to changes in climates is critical. Foundational research is necessary to identify plant species appropriate for changing climate, to meet increased energy demands, and to determine the role of agriculture in appropriate greenhouse gas reduction opportunities.

Oilseed crops for biofuel in crop rotations. Sustainable biodiesel and jet fuel production will require widespread planting of oilseed crops. The several million acres of alternate-year summer fallowed wheat land in Montana is commonly identified for growing oilseed crops. ARS researchers at Sidney, Montana, in collaboration with those at South Dakota State University have conducted a long-term study using cool-season *Brassica juncea*, camelina and crambe oilseeds in 2-year rotations with durum wheat. They discovered *Brassica (B.) juncea* had significantly superior seed and oil yield compared with the other oilseed crops, out-yielding both crambe and camelina by more than 100 and 360 pounds per acre respectively, and oil yield by 145 percent and 175 percent, respectively. Most importantly, durum wheat yields in rotations with the three oilseed crops were about 25-35 percent lower than durum wheat in summer fallow rotations due to greater soil water use by the oilseed crops than if the alternate year fallow were used. This dispels the common notion that alternate year fallow land is available at no cost to food crop production. The study also showed insertion of the most productive oil seed crop into an every-other-year rotation would earn the farmer a greater overall return despite reduced durum wheat yields. Taken as a whole, this research demonstrates that *B. juncea*'s superior yield and oil producing qualities make it a promising candidate to meet future U.S. biofuel production needs by altering crop rotations in semi-arid areas of the Northern Great Plains.

Goal 3. Sustainable Use of Natural Resources

Research, education, and extension programs that improve soil, air, and water while supporting agricultural and forest production on working lands have been the hallmark of USDA for more than a century. Technologies and management prescriptions are developed that produce needed agricultural and forest products while sustaining the natural resources that support their development.

Remote sensing tools for agricultural drought detection. Drought-related reductions in agricultural productivity have profound effects on regional food security and global agricultural commodity markets. The ability to mitigate these effects is frequently limited by difficulties in accurately detecting the onset and severity of agricultural drought, particularly in underdeveloped regions of the world prone to food insecurity. To address this limitation, ARS scientists in Beltsville, Maryland, examined the microwave and thermal radiative signature of agricultural landscapes undergoing drought, and developed a series of satellite remote sensing tools to assess the availability of soil water in the root zone over large geographic regions. These satellite-based strategies enable both the earlier detection of agricultural drought and a more detailed spatial description of its extent and severity. These improvements enhance our ability to mitigate the effects of agricultural drought on global food markets, and to anticipate the social/political consequences of changes in food availability and price. Currently, these technologies, the data sets they create, or both, are being shared with operational drought monitoring activities at the Foreign Agricultural Service, the National Oceanic and Atmospheric Administration, the National Environmental Satellite Data and Information Service, and the National Drought Mitigation Center. This research is already having international effects in helping to quantify drought conditions as related to food insecurity in the Horn of Africa.

Goal 5. Food Safety

The production, processing, and distribution system for food in the United States is a diverse, extensive, and easily accessible system. This open system is vulnerable to the introduction of contaminants through natural processes and global commerce, and by intentional means. Research, Education, and Economics Mission Area agencies provide the means to ensure that the food supply is safe and secure for consumers, and that the food and feed meet domestic and foreign regulatory requirements. Accomplishments and outcomes are utilized in national and international strategies delivering research results to regulatory agencies, commodity organizations, industry, and consumers.

Recent foodborne outbreaks have increased the awareness that certain Shiga toxin-producing *E. coli* (STEC) serogroups, including *E. coli* O26, O45, O103, O111, O121, and O145 cause a similar illness in humans as *E. coli* O157:H7. Because these "top six" non-O157 STEC serogroups can be as dangerous as *E. coli* O157:H7, the USDA Food Safety and Inspection Service (FSIS) very recently declared these STEC as adulterants in beef. At the request of the FSIS, ARS researchers at Wyndmoor, Pennsylvania, developed a step-wise protocol to detect and identify and characterize these non-O157 STEC pathogens in beef. The steps consist of enrichment, detection by the polymerase chain reaction targeting important genes involved in the disease process and serogroup-specific genes, and strain isolation. Further, ARS developed, evaluated, and transferred a latex agglutination test (LAT) for confirmation of the STECs. The method for developing and purifying the polyclonal antibodies used in the LAT assay was released early so as to allow commercialization and availability to industry, a critical concern for FSIS. The impact of developing the detection, isolation, and confirmation for the non-O157 STEC protocol cannot be overestimated. Although regulatory/industry monitoring for non-O157 STECs has now been postponed from March 2012 to June 2012, the technology ARS developed will be employed by the FSIS and industry to monitor through regulations these important pathogens in beef.

As with accomplishments, it is equally difficult to list only five research priorities when there are so many critical problems facing agriculture that the REE agencies are working to address. What follows is a sample of those most pressing priorities.

1. Incorporate biomass, dedicated feedstock crops and other clean bioenergy technologies into existing and new agricultural production systems to maximize benefits.

2. Develop intervention and control strategies for foodborne contaminants along the food production continuum. Provide research models and data that identify and evaluate management strategies and incentives for food safety improvement that improve food safety and industry viability cost-effectively.
3. Safely and sustainably increase domestic and global animal and crop production via research and development of new varieties and breeds.
4. Adapt agriculture and forestry to climate change, including improvement in the resilience of natural and managed ecosystems.
5. Develop and extend approaches to prevent obesity and related diseases, including translational activities.

FSIS and REE

Mr. Kingston: In March 2012, the U.S. Government Accountability Office (GAO) recommended that USDA provide more specific guidance on the license-approval requirements for vaccines to combat *E. coli* O157:H7 and made other observations on the reduction of *E. coli*-related illness. The report also recommends USDA explore practices that other countries use to reduce Shiga toxin-producing *E. coli* (STEC) in cattle and consider whether those practices could help U.S. efforts. Obviously, GAO is making these recommendations for the Food Safety and Inspection Service (FSIS). However, there are concerns that USDA's research agencies are not supporting FSIS's science needs. What does FSIS need from the research agencies? How do the research agencies coordinate with FSIS on its research and science needs? Is there a formal working group or other mechanism for coordination? How would you improve it?

Response: Agricultural Research Service (ARS) program leaders and scientists were involved in the GAO review and provided much information for the report. The ARS researchers have been involved in the development and evaluation of several vaccines to control *E. coli* O157:H7 in cattle. None of the vaccines provide complete control of the pathogen and must be used in conjunction with other interventions through what is referred to as the hurdle approach; that is, the use of various interventions that act additively or synergistically to reduce the levels of pathogens. Vaccine license approval is under the auspices of the Animal and Plant Health Inspection Service (APHIS); and ARS conducts the developmental and evaluation research. The GAO report indicates that some countries have practices to reduce STEC. Other countries have different production and processing practices, and thus as a result, the types and levels of STEC are different. ARS researchers are closely involved in many of the international research projects; for example, the European Commission-funded ProSafeBeef project currently being conducted to control STECs in Europe. ARS also recently participated in a joint ARS-United Kingdom Food Standards Agency international workshop to exchange information and develop an international research agenda. ARS has developed and evaluated a technology using sodium chlorate to control STEC in cattle. The use and approval of this technology remains under consideration by the Food and Drug Administration (FDA).

In support of FSIS, ARS research is designed to provide science-based knowledge on the safe production, storage, processing, and handling of plant and animal products, and on the detection and control of toxin-producing pathogenic bacteria. ARS' food safety research activities involve a high degree of cooperation and collaboration with many national and international government agencies, but more specifically, with FSIS. ARS and FSIS hold regular meetings to discuss research and evaluate FSIS needs, develop documents that outline needs, and the means to conduct FSIS research. ARS provides a 350+ page annual research report to FSIS, and also conducts an annual 3-day meeting with FSIS that includes representatives from Centers for Disease Control and Prevention, National Institute of Food and Agriculture, and the FDA to discuss ongoing and future research. ARS-FSIS have a formal working group for coordination that includes the ARS national program leaders for food safety, the FSIS assistant and deputy administrators for science, and the FSIS liaison to ARS.

REE Mission Area

Methyl Bromide

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to methyl bromide transition, including the participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$19,497,000	$19,756,000	$20,196,000	$18,362,000	$18,184,000
ERS	0	0	0	67,116	0
NIFA	3,304,000	3,801,000	2,849,000	2,553,000	498,000
Total	22,801,000	23,557,000	23,045,000	20,982,116	18,682,000

The USDA Agricultural Research Service (ARS) Methyl Bromide Alternatives National Program encompasses research to determine alternatives to this pesticide.

Selected research highlights for FYs 2009-2012 include:

- Effective methyl bromide alternatives were demonstrated in the production of raspberry nursery stock.
- Alternative fumigants were integrated with improved plastic mulches to replace methyl bromide in strawberry production.
- A GPS-controlled shank injection system was introduced for spot fumigation in orchards.
- Methyl bromide alternatives were introduced for cut flower and bulb production.
- Low permeable films that reduce fumigant emissions were introduced.
- A novel red flour beetle trap was developed.
- Monitoring of stored-product insect populations in food processing facilities is occurring.
- Ultra-low oxygen treatment for postharvest control of western flower thrips on lettuce was introduced.
- Pure phosphine fumigation at low temperature was introduced to control western flower thrips on lettuce, broccoli, asparagus, and strawberries.

- Quarantine strategies were instituted to control Hessian fly in exported hay.
- Methyl bromide alternatives were optimized for forest nursery seedling production.
- Monitoring methods were improved for navel orange worm in almond crops.
- New technologies were developed to identify soil-borne plant pathogens.
- Better detection systems were devised for the redbay ambrosia beetle.

As a result of alternatives identified by research, the U.S. use of methyl bromide has been reduced by 97 percent compared with 1991 baseline levels. Further research is currently addressing the remaining 3 percent of use, which consists of recalcitrant problems and some new problems that have emerged as alternatives are being implemented. In FY 2012, USDA research is focused on seeking economically viable alternatives for pests and diseases where methyl bromide is still currently needed. This includes addressing the recent loss of methyl iodide (an alternative to methyl bromide) following its removal from the marketplace by the manufacturer (Arysta) in March 2012. For fiscal year 2013, ARS methyl bromide research will include continuation of all aspects of the base FY 2012 research program.

The Economic Research Service (ERS) conducted no research in this area during FYs 2009 through 2011. During FY 2012, ERS is analyzing the current economic issues of the U.S. methyl bromide phase-out and critical use exemptions. ERS plans no research in this area for FY 2013.

In FY 2013, NIFA is not requesting any additional money for the Methyl Bromide Transition program budget line. However, alternatives to methyl bromide research may be addressed through a comprehensive integrated pest management strategy funded under the Integrated Activities' Crop Protection program, which is reflected in the FY 2013 estimate. Recipient data for 2009 and 2010 is provided for the record for Methyl Bromide Transition. 2011 data is not yet available.

NIFA Methyl Bromide Funding Recipients

FY 2009

PROJ TYPE: EVANS-ALLEN
SOUTH CAROLINA STATE UNIVERSITY
Innovative Reduced-Risk Management Strategies for Anobiidae Pest in Stored Product Environments

PROJ TYPE: HATCH
AUBURN UNIVERSITY
Nitrogen Loss in Warm-Season Turfgrass Production Systems.

PROJ TYPE: HATCH
AUBURN UNIVERSITY
Weed Management and Biology in Fine and Roadside Turfs Common to Alabama

PROJ TYPE: HATCH
UNIVERSITY OF ARIZONA
Function of Root Border Cells in Plant Health: Pioneers in the Rhizosphere

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Disease Management in Ornamental Crops

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Management of Vascular Wilt Diseases

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Postharvest Biology of Fruit

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
ENHANCING POSTHARVEST QUALITY OF FRUITS WITH REDUCED DEPENDENCE ON CHEMICAL TREATMENTS

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
HORTICULTURE, BIOLOGY AND ENVIRONMENTAL PHYSIOLOGY OF CALIFORNIA STRAWBERRIES

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Chemical and Cultural Practices as Alternatives to Methyl Bromide Fumigation for Vegetable Crop Production

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
GENETICS AND VARIETAL IMPROVEMENT OF STRAWBERRIES

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
ALTERNATIVE WEED CONTROL OPTIONS FOR CALIFORNIA STRAWBERRY AND VEGETABLE GROWERS

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
SUPPRESSION OF PLANT PARASITIC NEMATODES AND ROOT PATHOGENS BY BENEFICIAL RHIZOSPHERE ORGANISMS

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
Molecular Microbial Ecology of Suppressive Soils

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
MANAGING PLANT-MICROBE INTERACTIONS IN SOIL TO PROMOTE SUSTAINABLE AGRICULTURE

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
MANAGING PLANT-MICROBE INTERACTIONS IN SOIL TO PROMOTE SUSTAINABLE AGRICULTURE

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
Replace Methyl Bromide combine tactics root kill, fallow, resistant rootstocks, starter nutrients, and environmentally friendly post-plant nematicides.

PROJ TYPE: HATCH
CONNECTICUT AGRICULTURAL EXPERIMENT STATION
Alternative management systems for plant parasitic nematodes in horticultural and field crops

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Virus and Bacterial Diseases of Citrus

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Rhizosphere Interactions Affecting Root Health of Citrus and Tomato Crops

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Biorational Approaches for Managing Vegetable Diseases in South Florida

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Low Pressure Conditions Kill Quarantine Insects While Maintaining Optimum Tropical Fruit Quality during Shipments

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
AGROCHEMICAL IMPACTS ON HUMAN AND ENVIRONMENTAL HEALTH: MECHANISMS AND MITIGATION

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Alternative Management Systems for Plant-parasitic Nematodes in Horticultural and Field Crops

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Biology and Management of Plant Pathogenic Nematodes Affecting Agronomic Crops Grown in Florida

PROJ TYPE: HATCH
UNIVERSITY OF GEORGIA
Integrated Disease Management for Peanuts and Pecans

PROJ TYPE: HATCH
UNIVERSITY OF GEORGIA
Pest Management in Vegetable Plasticulture Systems

PROJ TYPE: HATCH
UNIVERSITY OF ILLINOIS
TO DEVELOP EFFECTIVE STRATEGIES FOR MANAGEMENT OF PHYTOPHTHORA BLIGHT OF PUMPKINS

PROJ TYPE: HATCH
PURDUE UNIVERSITY
BIOLOGY AND MANAGEMENT OF FOOD PESTS

PROJ TYPE: HATCH
KANSAS STATE UNIV
Management of Stored Product Insect Pests with Pesticide Alternatives

PROJ TYPE: HATCH
MICHIGAN STATE UNIV
Strategies to Enhance the Sustainability of Intensive Vegetable Production Systems

PROJ TYPE: HATCH
UNIVERSITY OF NEBRASKA
Variability, Adaptation, and Management of Nematodes Impacting Crop Production and Trade (from W1186)

PROJ TYPE: HATCH
RUTGERS UNIVERSITY
High Value Specialty Crop Pest Management

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Weed Management as Part of Integrated Pest Management for New Mexico Crops

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Molecular-genetics of plant interactions with phytopathogenic fungi

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Cultural Management of Strawberries and Muscadines

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Arbuscular Mycorrhizal Fungi and Sustainable Agroecosystem Research in North Carolina

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Diversity and Activities of Soil Microflora and Mesofauna: Effects on Carbon and Nitrogen Cycling, and Soilborne Pathogenic Fungi

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Biology and Management of Arthropod Pests of Small Fruit, and Specialty Crops

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Integrated Disease Management of soilborne diseases: Short- and Long-term Initiatives

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Increasing Efficiency, Sustainability, and Productivity of Tomatoes Grown in Greenhouses and High Tunnels

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Weed Management Techniques for Fruits and Vegetables

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Cover/Biofumigant Crops Influence Vegetables

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Weed management in transgenic cotton and roadside wildflowers

PROJ TYPE: HATCH
OHIO STATE UNIVERSITY
Alternative management systems for plant-parasitic nematodes in horticultural and field crops

PROJ TYPE: HATCH
UNIVERSITY OF RHODE ISLAND
Alternative Management Systems for Plant-Parasitic Nematodes in Horticultural and Field Crops

PROJ TYPE: HATCH
CLEMSON UNIVERSITY
Evaluation of grafted watermelons, grafting methods and potential benefits to South Carolina growers and consumers

PROJ TYPE: HATCH
UNIVERSITY OF TENNESSEE
Establishment of Programs for Weed Control in Horticultural Crops with Emphasis on Management of Invasive Noxious Weeds in the State of Tennessee

PROJ TYPE: HATCH
UTAH STATE UNIVERSITY
Novel Lipopeptide-Based Agrofungicides: Properties, Action, and Development

PROJ TYPE: HATCH
UNIVERSITY OF VERMONT
Alternative management systems for plant-parasitic nematodes in horticultural and field crops

PROJ TYPE: HATCH
VIRGINIA POLYTECHNIC INSTITUTE
Investigating Alternatives To Soil Fumigation With Methyl Bromide

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Preplant Treatments and Postplant Practices to Promote Healthy Berry Crops and Manage Soil-Borne Pathogens.

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Managing Plant Microbe Interactions in Soil to Promote Sustainable Agriculture (from W1147)

PROJ TYPE: MCINTIRE-STENNIS
PENNSYLVANIA STATE UNIVERSITY
Dielectric and Micowave Applications for the Phyotosanitary Treatment of Wood Material

PROJ TYPE: OTHER GRANTS
AUBURN UNIVERSITY
Integrated Pest Management as Replacement for Methyl Bromide in a Centipedegrass-Based Sod Rotation System

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF ARIZONA
Use of grafted seedlings for methyl bromide transition in U.S. open-field fresh vegetable production

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF ARKANSAS
Methyl Bromide Alternatives for Yellow and Purple Nutsedge and other Weeds in Tomato and Bell Pepper Plasticulture: An Integrated Approach

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF ARKANSAS
Use of Natural and Synthetic Isothiocyanates as Alternatives to Methyl Bromide for Pest Suppression in Vegetables

PROJ TYPE: OTHER GRANTS
CALIFORNIA STATE UNIVERSITY
Efficacy with the Combination of Sulfuryl Fluoride and Propylene Oxide as Replacement for Methyl Bromide Fumigation of Stored Food Products

PROJ TYPE: OTHER GRANTS
UNIV OF CALIFORNIA
Strawberry and Ornamental Production without Methyl Bromide employing Grower-Directed Alternative Pest Management Research and Outreach

PROJ TYPE: OTHER GRANTS
UNIV OF CALIFORNIA
Systems to disinfest soil with heat for flower and strawberry production

PROJ TYPE: OTHER GRANTS
UNIV OF CALIFORNIA
Solarization and steam heat combined to control soil pests in flower and strawberry

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF CALIFORNIA SANTA CRUZ
Optimizing Anaerobic Soil Disinfestation as an Alternative to Methyl Bromide Fumigation

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF FLORIDA
Evaluation of the Sustainability of Methyl Bromide Alternatives in a Double Crop System

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF FLORIDA
Short-term Methyl Bromide Alternatives for the Florida Floriculture Industry

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF FLORIDA
Integrated Management Strategies for Methyl Bromide Replacement in Golf Course Construction and Turfgrass Sod Production

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF FLORIDA
Increasing Efficacy and Decreasing Application Rate of Telone C35 with Carbon Dioxide and Wavelength Selective Plastic Mulch

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF FLORIDA
Grower Field Demonstration Trialing of Gas Impermeable plastic mulches, Reduced Rates of Soil Fumigants, and Optimized Irrigation and Cultural Practices

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF GEORGIA
Evaluation of non-fumigant pesticides as methyl bromide alternatives for managing soilborne diseases and weeds in vegetable production

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF GEORGIA
Assisting Vegetable Growers in the Adoption of Methyl Bromide Alternatives for Weeds, Diseases, and Nematodes

PROJ TYPE: OTHER GRANTS
KANSAS STATE UNIV
Aerosol Applications as a Methyl Bromide Alternative for Milling, Processing, and Food Storage

PROJ TYPE: OTHER GRANTS
KANSAS STATE UNIV
Critical Analysis of Methyl Bromide, Sulfuryl Flouride, and Heat Treatment in Disinfesting Food-Processing Facilities

PROJ TYPE: OTHER GRANTS
KANSAS STATE UNIV
Optimizing and Gauging Effectiveness of Heat Treatments for Managing Insects in Food and Feed Processing Facilities

PROJ TYPE: OTHER GRANTS
MICHIGAN STATE UNIV
Managing Soilborne Pathogens in Midwest Melon and Eggplant Crops Using Methyl Bromide Alternatives and New Application Methods

PROJ TYPE: OTHER GRANTS
MICHIGAN STATE UNIV
Methyl Bromide Transition Plan for Michigan's Fresh Market Vegetable Growers

PROJ TYPE: OTHER GRANTS
MISSISSIPPI STATE UNIV
Evaluation of potential alternatives to methyl bromide fumigation in dry cured ham and aged cheese production

PROJ TYPE: OTHER GRANTS
MISSISSIPPI STATE UNIV
Evaluation of Methyl Bromide Emissions and Potential Fumigation Alternatives in Dry Cured Ham Production

PROJ TYPE: OTHER GRANTS
NORTH CAROLINA STATE UNIV
Integrated Management of Soilborne Pests in Strawberry and Vegetable Production Systems: Biological Systems and Chemical Alternatives to Methyl Bromide

PROJ TYPE: OTHER GRANTS
PENNSYLVANIA STATE UNIVERSITY
Radio frequency technology as an alternative treatment to methyl bromide fumigation for wood in world trade

PROJ TYPE: OTHER GRANTS
PENNSYLVANIA STATE UNIVERSITY
Microwave Technology Approval and Phytosanitary Treatment Compliance

PROJ TYPE: OTHER GRANTS
VIRGINIA POLYTECHNIC INSTITUTE
Alternatives to Methyl Bromide for the Control of Bacterial Wilt and Yellow Nutsedge in Tomatoes and Peppers Grown in Virginia

PROJ TYPE: OTHER GRANTS
WASHINGTON STATE UNIVERSITY
Control of Fusarium Root Rot in Douglas-fir Seedling Nurseries through Monitoring and Soil Amendments

PROJ TYPE: OTHER GRANTS
WASHINGTON STATE UNIVERSITY
Radio Frequency Energy as an Alternative to Methyl Bromide Fumigation for Controlling Pests in Stone Fruits and Nuts

PROJ TYPE: SMALL BUSINESS GRANT
INSECTS LIMITED, INC.
Development of Real-time Whole-organism Biosensor System for use in post harvest, structural and quarantine fumigations

PROJ TYPE: SMALL BUSINESS GRANT
DIVERGENCE, INC.
Use of a Plant Universal Molecular Recognition Library for Root Knot Nematode Resistance

PROJ TYPE: SMALL BUSINESS GRANT
Divergence, Inc.
Control of Root Knot Nematodes by Transgenic RNA Interference

PROJ TYPE: SMALL BUSINESS GRANT
TECHNICAL DESIGNS, INC.
A Biodegradable Thin-Film Mulching System for Weed Suppression in Commercial Crop Production

PROJ TYPE: SPECIAL GRANT
UNIVERSITY OF FLORIDA
Bioengineering Strawberries for Nematode Resistance in Tropical and Sub-tropical Environments

PROJ TYPE: STATE
UNIVERSITY OF FLORIDA
BIOLOGY, INTERACTION, AND MANAGMENT OF NEMATODES and WEEDS OF FLORIDA VEGETABLE CROPS

PROJ TYPE: STATE
UNIVERSITY OF FLORIDA
Determining Specific Irrigation Volumes and Frequencies and Nitrogen Fertilization Rates for Strawberry

PROJ TYPE: STATE
UNIVERSITY OF FLORIDA
Reducing Water Consumption in Polyethylene-Mulched Tomato and Pepper Fields after Methyl Bromide Phase-out

PROJ TYPE: STATE
MICHIGAN STATE UNIV
Management of Diseases of Upland and Muck Vegetables, Ginseng, Vegetable Transplants, and Greenhouse Ornamentals

PROJ TYPE: STATE
UNIVERSITY OF WASHINGTON
67-0075 Weyerhaeuser Grant-Anna Leon

PROJ TYPE: STATE
UNIVERSITY OF WASHINGTON
61-7732 Alternatives to Methyl Bromide USDA-PAW Project Work Plan: Forest Tree Nurseries

PROJ TYPE: STATE
WASHINGTON STATE UNIVERSITY
INTERNATIONAL MARKETING PROGRAM FOR AGRICULTURAL COMMODITIES AND TRADE

FY 2010

PROJ TYPE: EVANS-ALLEN
SOUTH CAROLINA STATE UNIVERSITY
Innovative Reduced-Risk Management Strategies for Anobiidae Pest in Stored Product Environments

PROJ TYPE: HATCH
UNIVERSITY OF ARIZONA
Function of Root Border Cells in Plant Health: Pioneers in the Rhizosphere

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Disease Management in Ornamental Crops

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Management of Vascular Wilt Diseases

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Postharvest Biology of Fruit

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
ENHANCING POSTHARVEST QUALITY OF FRUITS WITH REDUCED DEPENDENCE ON CHEMICAL TREATMENTS

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
HORTICULTURE, BIOLOGY AND ENVIRONMENTAL PHYSIOLOGY OF CALIFORNIA STRAWBERRIES

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Chemical and Cultural Practices as Alternatives to Methyl Bromide Fumigation For Vegetable Crop Production

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
GENETICS AND VARIETAL IMPROVEMENT OF STRAWBERRIES

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
ALTERNATIVE WEED CONTROL OPTIONS FOR CALIFORNIA STRAWBERRY AND VEGETABLE GROWERS

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
Molecular Microbial Ecology of Suppressive Soils

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
MANAGING PLANT-MICROBE INTERACTIONS IN SOIL TO PROMOTE SUSTAINABLE AGRICULTURE

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
MANAGING PLANT-MICROBE INTERACTIONS IN SOIL TO PROMOTE SUSTAINABLE AGRICULTURE

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
SUPPRESSION OF PLANT PARASITIC NEMATODES AND ROOT PATHOGENS BY BENEFICIAL RHIZOSPHERE ORGANISMS

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Rhizosphere Interactions Affecting Root Health of Citrus and Tomato Crops

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Virus and Bacterial Diseases of Citrus

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Biorational Approaches for Managing Vegetable Diseases in South Florida

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Low Pressure Conditions Kill Quarantine Insects While Maintaining Optimum Tropical Fruit Quality During Shipments

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
AGROCHEMICAL IMPACTS ON HUMAN AND ENVIRONMENTAL HEALTH: MECHANISMS AND MITIGATION

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Biology and Management of Plant Pathogenic Nematodes Affecting Agronomic Crops Grown in Florida

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
AGROCHEMICAL IMPACTS ON HUMAN AND ENVIRONMENTAL HEALTH: MECHANISMS AND MITIGATION

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Development and integration of sustainable weed management systems for small fruit, vegetable, and field grown ornamentals.

PROJ TYPE: HATCH
UNIVERSITY OF GEORGIA
Integrated Disease Management for Peanuts and Pecans

PROJ TYPE: HATCH
UNIVERSITY OF GEORGIA
Pest Management in Vegetable Plasticulture Systems

PROJ TYPE: HATCH
UNIVERSITY OF ILLINOIS
TO DEVELOP EFFECTIVE STRATEGIES FOR MANAGEMENT OF PHYTOPHTHORA BLIGHT OF PUMPKINS

PROJ TYPE: HATCH
PURDUE UNIVERSITY
BIOLOGY AND MANAGEMENT OF FOOD PESTS

PROJ TYPE: HATCH
PURDUE UNIVERSITY
Tritrophic interactions of crops, pests, and predators: linking ecological theory with agricultural applications

PROJ TYPE: HATCH
MICHIGAN STATE UNIV
Strategies to Enhance the Sustainability of Intensive Vegetable Production Systems

PROJ TYPE: HATCH
MONTANA STATE UNIVERSITY
The Biology and Utility of Muscodor albus in Agriculture (Microbe /Plant Interactions)

PROJ TYPE: HATCH
UNIVERSITY OF NEBRASKA
Variability, Adaptation, and Management of Nematodes Impacting Crop Production and Trade (from W1186)

PROJ TYPE: HATCH
RUTGERS UNIVERSITY
High Value Specialty Crop Pest Management

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Weed Management as Part of Integrated Pest Management for New Mexico Crops

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Molecular-genetics of plant interactions with phytopathogenic fungi

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Cultural Management of Strawberries and Muscadines

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Diversity and Activities of Soil Microflora and Mesofauna: Effects on Carbon and Nitrogen Cycling, and Soilborne Pathogenic Fungi

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Arbuscular Mycorrhizal Fungi and Sustainable Agroecosystem Research in North Carolina

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Biology and Management of Arthropod Pests of Small Fruit, and Specialty Crops

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Increasing Efficiency, Sustainability, and Productivity of Tomatoes Grown in Greenhouses and High Tunnels

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Weed Management Techniques for Fruits and Vegetables

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Integrated Disease Management of soilborne diseases: Short- and Long-term initiatives

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Cover/Biofumigant Crops Influence Vegetables

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Weed management in transgenic cotton and roadside wildflowers

PROJ TYPE: HATCH
CLEMSON UNIVERSITY
Evaluation of grafted watermelons, grafting methods and potential benefits to South Carolina growers and consumers

PROJ TYPE: HATCH
UNIVERSITY OF TENNESSEE
Establishment of Programs for Weed Control in Horticultural Crops with Emphasis on Management of Invasive Noxious Weeds in the State of Tennessee

PROJ TYPE: HATCH
UTAH STATE UNIVERSITY
Novel Lipopeptide-Based Agrofungicides: Properties, Action, and Development

PROJ TYPE: HATCH
VIRGINIA POLYTECHNIC INSTITUTE
Investigating Alternatives To Soil Fumigation With Methyl Bromide

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Managing Plant Microbe Interactions in Soil to Promote Sustainable Agriculture (from W1147)

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Preplant Treatments and Postplant Practices to Promote Healthy Berry Crops and Manage Soil-Borne Pathogens.

PROJ TYPE: MCINTIRE-STENNIS
PENNSYLVANIA STATE UNIVERSITY
Dielectric and Micowave Applications for the Phyotosanitary Treatment of Wood Material

PROJ TYPE: OTHER GRANTS
UNIV OF CALIFORNIA
Energy efficient steam soil disinfestation systems for flower and strawberry

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF FLORIDA
Large Scale Demonstration Trialing and Industry-Wide Testing of Methyl Bromide Alternatives in Florida Strawberry

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF FLORIDA
Multi-State evaluation of carbonated fumigants and low permeable tarps to reduce application rate, increase efficacy, and minimize emissions

PROJ TYPE: OTHER GRANTS
KANSAS STATE UNIV
Evaluation, integration, and implementation on non-fumigation based pest management approaches for food-processing facilities

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF TENNESSEE
Advanced Development and Implementation of Anaerobic Soil Disinfestation Technology as an Alternative to Methyl Bromide

PROJ TYPE: SPECIAL GRANT
UNIV OF IDAHO
FY2010 Potato Cyst Nematode - Idaho

PROJ TYPE: SPECIAL GRANT
USDA-ARS, HORTICULTURAL CROPS RESEARCH LAB
IPM Tactics to Manage Pratylenchus penetrans in Red Raspberry: Providing Growers with Decision-Making Information

PROJ TYPE: SPECIAL GRANT
WASHINGTON STATE UNIVERSITY
Low Pressure as an Alternative to Chemical Fumigation for Controlling Pests in Fresh Temperate Fruits

PROJ TYPE: STATE
UNIVERSITY OF FLORIDA
Determining Specific Irrigation Volumes and Frequencies and Nitrogen Fertilization Rates for Strawberry

PROJ TYPE: STATE
UNIVERSITY OF FLORIDA
BIOLOGY, INTERACTION, AND MANAGMENT OF NEMATODES and WEEDS OF FLORIDA VEGETABLE CROPS

PROJ TYPE: STATE
UNIVERSITY OF FLORIDA
Reducing Water Consumption in Polyethylene-Mulched Tomato and Pepper Fields after Methyl Bromide Phase-out

PROJ TYPE: STATE
MICHIGAN STATE UNIV
Management of Diseases of Upland and Muck Vegetables, Ginseng, Vegetable Transplants, and Greenhouse Ornamentals

PROJ TYPE: STATE
UNIVERSITY OF WASHINGTON
67-0075 Weyerhaeuser Grant-Anna Leon

PROJ TYPE: STATE
UNIVERSITY OF WASHINGTON
61-7732 Alternatives to Methyl Bromide USDA-PAW Project Work Plan: Forest Tree Nurseries

Mr. Kingston: Please provide the funding level for ARS's and NIFA's work on methyl bromide for each of fiscal years 2000 through 2008.

Response: The information is provided for the record.

[The information follows:]

USDA Methyl Bromide Research Funding

(Dollars)

	ARS	ERS	NIFA	Total
2000 Actual	$14,855,000	$16,154	$2,558,000	$17,429,154
2001 Actual	16,681,000	5,263	2,944,000	19,630,263
2002 Actual	17,880,000	11,253	2,847,000	20,738,253
2003 Actual	18,051,000	5,808	3,817,000	21,873,808
2004 Actual	18,046,000	6,050	3,385,000	21,437,050
2005 Actual	18,200,000	6,352	3,817,000	22,023,352
2006 Actual	18,288,000	3,176	3,657,000	21,948,176
2007 Actual	19,081,000	2,614	3,785,000	22,868,614
2008 Actual	19,602,000	2,051	3,506,000	23,110,051
2009 Actual	19,497,000	0	3,304,000	22,801,000
2010 Actual	19,756,000	0	3,801,000	23,557,000
2011 Actual	20,196,000	0	2,849,000	23,045,000
2012 Estimated	18,362,000	67,116	2,553,000	20,982,116
2013 Budget	18,184,000	0	498,000	18,682,000

Organic Agriculture

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to organic agriculture, including the participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$56,898,000	$58,186,000	$53,636,000	$43,326,000	$39,505,000
ERS	1,114,000	1,638,000	1,638,000	1,638,000	1,642,184
NIFA	19,842,000	25,000,000	23,992,000	24,000,000	4,000,000
Total	77,854,000	84,824,000	79,266,000	68,964,000	45,147,184

ARS organic research is conducted at 20 locations across the United States. ARS organic research emphasizes whole-system preventive solutions rather than one-for-one substitution of conventional production materials and practices with organic ones. The ARS provides significant information resources through the National Agricultural Library (NAL). The largest of those resources is the Alternative Farming Systems Information Center (AFSIC).

Much of ARS' organic research is conducted under the National Program for Sustainable Agricultural Systems. The ARS program in sustainability was reviewed by an outside peer panel in December 2011 and a national customer/stakeholder workshop was held in February 2012 to solicit priorities for the next 5-year project cycle. This input will be used to develop a new nationwide research plan and, subsequently, to develop new projects at ARS locations throughout the country beginning in 2013.

During FYs 2009 through 2012, the Economic Research Service (ERS) conducted research on the practices, challenges, production risks, and adoption of organic farming systems in the United States. Research also examined the implications of structural and policy changes in organic product markets, how organic producers have responded to the changes, and how consumer interests are being reflected in producer decisions. ERS continued to provide statistical reports and analysis on certified organic acreage and livestock by state and by commodity. ERS also helped the National Agricultural Statistics Service (NASS) develop and launch USDA's first nationwide census survey of organic producers.

Research in FY 2012 will include further examination of differences in farm production costs of organic and conventional production systems for major agricultural products, including corn and wheat, and the price premiums needed to make organic systems competitive with conventional systems. Research will examine how changes that tighten organic pasture rules might affect the types and sizes of dairy operations that can be certified to produce organic milk. ERS will also examine the costs and practices, such as physical distancing and product segregation, used by organic and conventional non-genetically engineered (GE) producers to meet consumer expectations in the United States and elsewhere for maintaining differentiated product markets for non-GE products. Many new products with non-GE label claims have been introduced into U.S. supermarkets over the last decade and ERS will examine the retail prices for these products as well as the premiums for non-GE corn and soybeans in commodity markets. ERS will update estimates of certified organic acreage and livestock by state and by commodity on the basis of information from U.S. organic certifiers. Finally, ERS will explore the effect of macroeconomic factors on the USDA organic seal price premium for several organic products over the time period 2004-2010. During FY 2013, ERS research will continue to examine the implications of structural and policy changes in product markets, explore how producers have responded to the changes, gauge the influence of consumer interests on producer decisions, and provide statistical reporting on organic agriculture. The Agricultural Resources Management Survey (ARMS) data will also be used to incorporate the practices used in organic systems into an online database of the practices used in conventional production systems in the United States. A number of cooperative agreements will round out in-house expertise for these research issues.

Cooperative Agreements funding Organic Research

Title	Year	External Institution	Amount
Analysis of Production Costs and Methods for Organic versus Conventional Apples	2009	Washington State University	$26,400
Analysis of Nationwide Survey of Organic Handlers	2009	University of Georgia	39,667
Updating the Certified Organic Acreage and Livestock Database	2011	University of Maryland	100,000
Total			166,067

The National Institute of Food and Agriculture (NIFA) supports research on organic agriculture as well. FY 2012 is the final year of mandatory funding authorization under the Farm Bill program, which was funded in prior years at $18,000,000 in FY 2009 and $20,000,000 in FYs 2010-2012. Recipients of funding for organic agriculture include land-grant institutions and public and private universities and colleges. Recipient data for 2009 and 2010 is provided for the record for Organic Transition program and Organic Research and Extension Initiative. 2011 data is not yet available.

NIFA Organic Transition Program Recipients

FY 2009

Institution	Amount	Title
North Carolina State U.	$658,769	Water Quality Evaluation of Long-Term Organic & Conventional Vegetable Production
Ohio State U. Research Foundation	659,527	Impacts of Organic Animal Production Systems on Water Quality & Quantity in Ohio
Iowa State U.	433,568	Enhancing Farmland Water Quality and Availability
Total	1,751,864	

FY 2010

Institution	Amount	Title
U. of Wisconsin	$436,894	Impact of Organic Management on Dairy Animal Health
U. of Wyoming	700,000	Solid Caron & Nitrogen Dynamics
U. of Illinois	649,883	Organic Systems & Climate Change
Iowa State U.	691,969	Effect of Cover Crops, Soil Amendments & Reduced Tillage on Carbon Sequestration
U. Of New Hampshire	700,000	Greenhouse Gas Emissions in the Transition from Traditional to Organic Dairy Farming
U. of Florida	624,148	Environmental & Economic Costs of Transitioning to Organic Production
Texas AgriLife Extension Service	697,012	Integrating Community College Students & Organic Farmers
North Carolina State U.	251,161	Evaluating the Potential of Winter Cover Crops for Carbon Sequestration in Degraded Soils
Total	4,751,067	

NIFA Organic Research and Extension Initiative Recipients

FY 2009

Institution	Amount	Title
Cornell U.	$894,069	Summer Cover Crops for Weed Suppression and Soil Quality in Organic Vegetable Production in the Great Lakes Region
Iowa State U. of Science and Technology	1,047,024	Sustainable Systems for Cucurbit Crops on Organic Farms
The U. of Vermont and State Agricultural College	946,675	Using New Alternatives to Enhance Adoption of Organic Apple Production through Integrated Research and Extension

Institution	Amount	Title
Washington State U.	46,794	No-till organic vegetable production in western Washington: A Planning Proposal
Regents of the University of Minnesota	38,466	Integrated Organic Dairy Research and Extension planning
Michigan State U.	1,049,674	Practical Perennials: Partnering with farmers to develop a new type of wheat crop
North Carolina State U.	1,174,942	Farmer Driven Breeding: Addressing the Needs of Southeastern Organic Field Crop Producers
Utah State U.	637,519	Organic Stone-Fruit Production: Optimizing Water Use, Fertility, Pest Management, Fruit Quality and Economics
Cornell U.	1,431,591	Building on success: a research and extension initiative to increase the prosperity of organic grain and vegetable farms
Organic Seed Alliance	46,281	The Seed We Need Working Group, Symposium, and Action Plan for the Advancement of Organic Seed Systems
U. of Guam	41,616	Training Conference to Develop Certification Inspectors to Enable organic Agriculture on Guam and the American Affiliated Pacific
Sustainable Agricultural Systems Lab	759,480	On-Farm Research and Extension to support Sustainable Nutrient Management of Organic Grain Cropping Systems in the Mid-Atlantic Region
U. of Maine System acting through the U. of Maine	1,320,378	Enhancing farmers capacity to produce high quality organic bread wheat
Oregon State U.	522,108	Northern Organic Vegetable Improvement Cooperative
U. of Nebraska, Lincoln	1,419,710	Improving Organic Farming Systems and Assessing their Environmental Impacts across Agroecoregions

Institution	Amount	Title
Pennsylvania State U.	538,415	Improving Weed and Insect Management in Organic Reduced - Tillage Cropping Systems
Washington State U.	410,077	Plant breeding and agronomic research for organic hop production systems
U. of Hawaii	47,500	Hua Ka Hua - Restore Our Seed: A symposium to develop a Hawaii Public Seed Initiative
The Ohio State U. Research Foundation	1,089,190	Enhancing Productivity and Soilborne Disease Control in Intensive Organic Vegetable Production with Mixed - Species Green Manures
U. of Hawaii	351,028	Vermicompost - based media to enhance organic vegetable seedling vigor, yield, crop quality and grower profitability
Regents of the U. of California	372,135	Researcher and Farmer Innovation to Increase Nutrient Cycling on Organic Farms
Washington State U.	1,040,210	Sustainable Dryland Organic Farming Systems in the pacific Northwest
The Ohio State U.	470,696	Mental models and participatory research to redesign extension programming for organic weed management
Board of Regents, U. of Nebraska, U. of NE - Lincoln	69,806	High Pressure Processing of natural, Organic, and Minimally-Processed Peanut Butter
The Board of Regents of the UW System	541,172	Organic Certified Seed Potato Production in the Midwest
Oregon State University	317,182	eOrganic: the National Online Information, Training, and Networking System for Organic Agriculture
U. of Wyoming	574,621	Marketing opportunities and constraints confronting organic farming operations in the high plains
Total	$17,198,359	

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Institution	Amount	Title
U. of Wisconsin, Madison	$574,621	Strategies of Pasture Supplementation on Organic and Conventional Grazing Dairies: Assessment of Economic, Production and Environment Outcomes
Utah State U.	1,019,411	Improved Organic Milk Production through the Use of the Condensed Tannin-Containing Forage Legume Birdsfoot Trefoil
Texas A&M U.	661,437	Development of Cultivars and IPM Strategies for Organic Cotton Production
USDA, Agricultural Research Service, Southern Plains Area	967,916	A systems Approach to Control Gastrointestinal Nematodes in Organic Small Ruminant Production
Farmers Legal Action Group, Inc.	109,200	Farmers Legal Action Group Production of an Organic Farmers Guide to Contracts
Michigan State U.	963,762	Organic Dry Bean Production Systems
Michigan State U.	188,531	Holistic Integration of Organic Strategies and High Tunnels for Midwest/Great Lakes Fruit Production
Purdue U.	1,288,010	Economics, Ecology, Education: An Integrated Approach to Ensure the Success of Organic Vegetable Growers
South Dakota State U.	43,809	Sustainable Organic Tribal Bison Production Using an Intra-Tribal Supply Chain Management System: A planning Grant Proposal
The University of Georgia Research Foundation, Inc.	45,713	Low Energy Agro-Ecological Farming (LEAF)
USDA, Agricultural Research Service, Midwest Area	49,666	Environmental sustainability of Organic Farming Systems: On-Farm, Experimental, and Watershed Assessments
University of New Hampshire	31,372	Research and Extension Needs Assessment of the Organic Dairy Industry in the Northeast

Institution	Amount	Title
Oregon State U.	2,428,677	Organic Blackberry Production Systems for Improved Yield, Fruit Quality, and Food Safety in Fresh and Processed Markets
Regents of the U. of Idaho	108,815	Host plant choice of Colorado potato beetle and variation in defoliation and yield losses among organically grown commercial potato varieties
The U. of Vermont and State Agricultural College	759,516	Development of Tech. Training and Support for Ag. Service Providers & Farmers in Certified Organic Dairy Production Systems through eOrganic
The U. of Arizona	950,514	Improving the Safety and Quality of Organic Leafy Greens: Assessment of Good production Practices Along the Farm to Fork Continuum
U. of Maryland	526,781	Using winter cover crops to enhance the organic vegetable industry in the mid-Atlantic region
Washington State U.	1,538,115	Carbon Sequestration, Nutrient Bioavailability, and Environmental Services from Organic Agriculture
West Virginia U.	31,344	Organic Sheep and Goats: Herd Health and Nutrition Planning Proposal for the Northeast US 2010
U. of Minnesota	1,273,250	Tools for Organic Transition: Financial Data and Educational Resources for Farmers and Agricultural Professionals
The U. of Tennessee	50,000	Pasteurization of High Quality Organic Fruit and Vegetable Juices using Nonthermal LTechnologies
The Board of Regents of the UW System	658,735	Crop Plant Nutrition and Insect Response in Organic Field Crop Production: Linking Farmer Observation to University Research and Extension
Iowa State U.	2,864,478	Strengthening public corn breeding to ensure that organic farmers have access to elite cultivars

Institution	Amount	Title
Pennsylvania State U.	678,797	Improving Weed and Insect Management in Organic Reduced-Tillage Cropping Systems
Oregon State U.	620,066	Northern Organic Vegetable Improvement Collaborative (NOVIC)
The Ohio State U.	684,496	Mental Models and Participatory Research to Redesign Extension Programming for Organic Weed Management
Total	$19,117,032	

Sustainable Agriculture

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to sustainable agriculture, including the participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$488,640,000	$511,129,000	$490,090,000	$470,223,000	$475,141,000
ERS	33,269	33,948	33,948	12,837	12,901
NIFA	188,290,000	195,867,000	196,633,000	196,795,000	198,173,000
Total	676,963,269	707,029,948	686,756,948	667,030,837	673,326,901

The Agricultural Research Service (ARS) projects contributing to long-term agricultural sustainability by using an interdisciplinary systems research approach to bring together the diverse expertise needed to understand how different kinds and sizes of farms function, and how changing or introducing new technology will affect their economic and environmental sustainability. Some of the research projects address challenges in agricultural systems dominated by commodities such as corn, soybean, cotton, peanut, cereal grains, and turf and herbage seed crops. Other projects are focused on solving problems related to the production of high-value specialty crop and value-added organic agricultural products, the integration of specialized crop and livestock enterprises, and diversified agroforestry systems. Additionally, research is occurring to develop and apply technologies such as models and decision support tools that can be used to understand and increase the economic and environmental sustainability of production systems.

The ARS program in sustainability was reviewed by an outside peer panel in December 2011 and a national customer/stakeholder workshop was held in

February 2012 to solicit priorities for the next 5-year project cycle. This input will be used to develop a new nationwide research plan and, subsequently, to develop new projects at ARS locations throughout the country beginning in 2013.

The Economic Research Service (ERS) conducted research during FYs 2009 through 2011 to examine the characteristics of commercial and manure nitrogen use by U.S. crop producers, and the scope and methods for promoting more efficient use of nitrogen for crops that reduce greenhouse gasses and air and water pollution; differences in the production costs of corn and wheat producers who adopt conservation versus conventional tillage systems and apply nitrogen at and above agronomic rates; and crop choice as the solution to short- and long-run optimization problems. Responding to increased interest in supporting local agriculture and the *Know your Farmer, Know your Food* initiative, ERS and university cooperators are researching innovative ways that public and private stakeholders are responding to marketing challenges faced by small livestock producers and processors. The project uses a case study approach to explore a diverse set of innovations currently being practiced to reduce barriers to locally focused processing infrastructure, and will provide information on local/regional meat and poultry market opportunities.

The National Institute of Food and Agriculture (NIFA) will continue to support current program activities in sustainable agriculture as well as the new Sustainable Ag Federal-State Matching Grant Program in FY 2013. The new Federal-State Matching Grant Program will allow a new level of inquiry and education. Funding would be available for teaching programs and to help study the complex interactions within agricultural systems rather than simply studying their individual components in isolation. The new program will use the existing Sustainable Agriculture Research and Education (SARE) program competitive grants process to award $3,500,000 to states which commit at least an equal amount from state appropriations, revenue or private funds. This will strengthen working relationships and allow twice as much research and education to be accomplished for each Federal dollar invested. Funding will support activities that: (1) integrate sustainable agriculture in all State research, extension, and education projects; (2) support new research at sustainable agriculture centers at the Nation's land grant and other colleges and universities; (3) build stronger Statewide farmer-to-farmer networks and outreach and technical assistance strategies; and (4) incorporate sustainable agriculture studies and curriculum in undergraduate and graduate degree programs.

The integration of teaching with research distinguishes this authority from the pre-existing SARE program. It will support problem-solving research with real-life applications while facilitating the training of a new generation of scientists, citizens, and practitioners knowledgeable about sustainable agriculture. Incorporating new knowledge into undergraduate and graduate agricultural related program curricula is an especially effective way to create a cadre of individuals with the knowledge and skills needed by the public and private sectors to meet the growing expectations of American consumers for sustainably produced food. Federal funds will provide incentive for state or private sector entities to partner with agriculture researchers and educators (i.e. provide the match for) in support of work designed to address today's real-world issues and problems and those anticipated in the future.

Recipient data for 2009 and 2010 is provided for the record for the Sustainable Agriculture Research Education (SARE) program. 2011 data is not yet available. Specific recipient data is not available for additional programs that support sustainable agriculture, include Hatch Act, McIntire-Stennis, Evans-Allen, Animal Health, Special Research Grants, Agriculture Food and Research Initiative (AFRI), SARE, Smith-Lever 3b&c, Smith-Lever 3d, Sustainable Agriculture 3d, Crops At Risk, Crop Protection, FQPA Risk Mitigation, and Sustainable Ag Matching Program.

NIFA Sustainable Agriculture Recipient

FY 2009

Recipient	Award Amount	Title
The University of Georgia	$3,118,122	Implement Plan of Work for the Southern Region Sustainable Agriculture Research and Education (SARE) Program
University of Maryland, College Park	$725,749	Collaboration and Support for Sustainable Agriculture
University of Minnesota	$3,118,122	Sustainable Agriculture and Research (SARE) Program
Utah State University	$3,118,122	Western Region Sustainable Agriculture Research and Education (SARE) Program
University of Vermont and State Agricultural College	$3,118,122	Northern Sustainable Agriculture Research and Education Program
University of Vermont and State Agricultural College	$70,783	Northern Sustainable Agriculture Research and Education Program - SUPPLEMENTAL FUNDS
Total	$13,269,020	

FY 2010

Recipient	Award Amount	Title
The University of Georgia	$3,159,152	Implement Plan of Work for the Southern Region Sustainable Agriculture Research and Education (SARE) Program
University of Maryland, College Park	$776,466	Collaboration and Support for Sustainable Agriculture
University of Minnesota	$3,159,152	Sustainable Agriculture and Research (SARE) Program
Utah State University	$3,159,122	2010 Western Region Sustainable Agriculture Research and Education (SARE) Program
University of Vermont and State Agricultural College	$3,159,152	Northern Sustainable Agriculture Research and Education Program
Total	$13,413,044	

Wheat Stem Rust

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to wheat stem rust/Ug99, including the participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: Agricultural Research Service (ARS) research on wheat stem rust includes activities on native strains of the pathogen and the Ug99 variant strains.

- ARS released the first U.S. wheat variety with resistance to the wheat stem rust pathogen Ug99 in 2009. This Ug99-resistant variety, Appalachian White, was released in 2009 for production in North Carolina and Virginia but has wide adaptation to the United States including the Great Plains. As of 2012, ARS has released a total of four varieties with specific resistance to Ug99; all four were developed using traditional breeding coupled with modern molecular marker-assisted selection, all designed to protect the global supply of grain. Many more Ug99-resistant varieties will be needed in the United States to provide protected varieties for all the varied climates and wheat market classes in the U.S.

- Since 2010, ARS scientists have screened more than 1,300 wild relatives of wheat in the ARS germplasm collection and discovered critically needed new sources of resistance in wheat. This information is enabling the introgression of new sources of Ug99 resistance and the development of resistance gene pyramids for more durable stem rust resistance.
- Since 2005, ARS has coordinated and conducted the evaluation of U.S. wheat and barley varieties and breeding lines in Kenya and Ethiopia where the disease is endemic, in coordination with the Durable Rust Resistance in Wheat project and the Borlaug Global Rust Initiative. This involves 28 universities, 8 ARS locations, and all private wheat breeding companies in the United States.
- Since 2007, scientists from ARS, the Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT) or the *International Maize and Wheat Improvement Center* in Mexico, and the International Center for Agricultural Research in the Dry Areas (ICARDA)in Syria have developed and distributed new sources of resistance to Ug99 and other rust resistances to winter wheat breeders in 18 other countries. ARS scientists developed a sensitive diagnostic method to accurately determine whether or not stem rust symptoms are caused by any of the highly virulent strains of the pathogen in the Ug99 family of the fungus. If wheat rust strains that are suspected to be Ug99 are found in the United States, APHIS will use this diagnostic method to determine if Ug99 is present.
- From 2008 through 2012, the National Institute of Food and Agriculture (NIFA) has funded a grant to enhance the current ARS cereal rust surveillance system.
- ARS is working closely with the U.S. National Plant Diagnostic Network (NPDN) and Cooperative Extension Service in wheat- and barley-producing States to monitor for Ug99.

The plan for FY 2013 follows the current Action Plan:

1. Cereal stem rust assessment and pathology;
2. Detection and identification;
3. Monitoring and reporting;
4. Germplasm enhancement, gene discovery, and development of molecular markers;
5. Regional variety development, evaluation, and implementation;
6. Disease management; and
7. Communication and outreach.

Funding for ARS research activities related to wheat stem rust/Ug99 is as follows: FY 2009, $1,500,000; FY 2010, $3,071,000; FY 2011, $2,954,000; FY 2012, $2,954,000; and FY 2013, $2,954,000 (estimated).

The National Institute of Food and Agriculture (NIFA) supports research on wheat stem rust/Ugg99 and provided $3,314,000 in FY 2009, $3,337,000 in FY 2010, and $509,000 in FY 2011. It expects to provide comparable levels of funding in FY 2012 and 2013. Work being carried out under NIFA-funded grants aims to eradicate wheat stem rust/Ugg99. An example is the WheatCAP project which features a molecular markers database which helps accelerate the development of wheat varieties with multiple disease resistance genes and improved quality. Recipient data for 2009 and 2010 is provided for the record for Wheat Stem. 2011 data is not yet available.

NIFA Wheat Stem Rust Recipients

UG99 FY 2009

PROJ TYPE: 3D GRANT
KANSAS STATE UNIV
Development of Critical Extension Resources for Emerging Races of Wheat Stem Rust (Ug99)

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIV OF CALIFORNIA
Comparative protein networks controlling disease resistance in rice and wheat

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
BREEDING, GENETIC, AND AGRONOMIC STUDIES OF BARLEY IN CALIFORNIA

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
CHROMOSOME MANIPULATION IN GRAMINAE

PROJ TYPE: HATCH
PURDUE UNIVERSITY
WHEAT AND OAT GENETICS AND BREEDING

PROJ TYPE: HATCH
KANSAS STATE UNIV
Wheat Genetic Improvement

PROJ TYPE: HATCH
KANSAS STATE UNIV
Analysis of Potentially Durable Adult Plant Resistance to Leaf Rust and Resistance to Other Diseases in the D Genome of Wheat

PROJ TYPE: HATCH
UNIV OF MINNESOTA
MOLECULAR CYTOGENETICS IN PLANT IMPROVEMENT

PROJ TYPE: HATCH
UNIV OF MINNESOTA
Disease Resistance in Small Grain Cereal Crops and Their Wild Relatives

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
DNA Marker-Assisted Small Grains Breeding

PROJ TYPE: HATCH
NORTH DAKOTA STATE UNIV
Hard Red Spring Wheat Improvement

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
Forecasting, epidemiology, and management of plant diseases

PROJ TYPE: HATCH
SOUTH DAKOTA STATE UNIVERSITY
Epidemiology and Management of Fungal Diseases of Small Grain Cereal Crops

PROJ TYPE: HATCH
TEXAS A&M UNIV
Small Grains Breeding and Genetics

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Genetic and Molecular Analysis of the Stem Rust Resistance Genes Rpg1 and Rpg5: Mechanisms of Resistance and Signaling Pathways

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
BREEDING AND GENETICS OF BARLEY

PROJ TYPE: NRI COMPETITIVE GRANT
UNIV OF CALIFORNIA
Wheat Applied Genomics

PROJ TYPE: NRI COMPETITIVE GRANT
UNIV OF MINNESOTA
Barley Coordinated Agricultural Project: Leveraging Genomics, Genetics, and Breeding for Gene Discovery and Barley Improvement

PROJ TYPE: NRI COMPETITIVE GRANT
PENN STATE UNIVERSITY
The Incursion of New Wheat Stem Rust Races into the United States: Preparation Thru Research, Education & Extension

PROJ TYPE: NRI COMPETITIVE GRANT
VIRGINIA POLYTECHNIC INSTITUTE
Development of an Integrated System to Detect, Monitor, and Forecast the Spread of Phytophthora infestans in the Lower Atmosphere

PROJ TYPE: NRI COMPETITIVE GRANT
WASHINGTON STATE UNIVERSITY
Genetic and Molecular analysis of the Stem Rust Resistant Gene Rpgl Mechanisms of the Resistance and Signaling Pathways

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF ILLINOIS EXTENSION
PEST DETECTION - NORTH CENTRAL INTEGRATED PEST MANAGEMENT CENTER AT THE UNIVERSITY OF ILLINOIS

PROJ TYPE: OTHER GRANTS
KANSAS STATE UNIV
Great Plains Diagnostic Network (GPDN)

PROJ TYPE: OTHER GRANTS
KANSAS STATE UNIV
Preparing for Wheat Stem Rust Races: Enhancing the Surveillance Network and Developing Management Recommendations

PROJ TYPE: OTHER GRANTS
OHIO STATE UNIVERSITY
Preparing for Incursion of UG99 and Related Races of the Wheat Stem Rust Pathogen into the US: Determining best Application Tech. and Equip. for Effective Fungicide

PROJ TYPE: OTHER GRANTS
PENNSYLVANIA STATE UNIVERSITY
Aerobiology Modeling of the Wheat Rust Pathogen Ug99 (TKKS): Assessing Pathways, Timing Incursion and Supporting Surveillance

PROJ TYPE: OTHER GRANTS
SOUTH DAKOTA STATE UNIVERSITY
Development of an Integrated Management Strategy for Stem Rust of Wheat and Barley

UG99 FY 2010

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIVERSITY OF FLORIDA
Improvement and deployment of rapid standardized PCR diagnostic tools to increase detection capacity for high&#8208;impact plant pathogens

PROJ TYPE: AFRI COMPETITIVE GRANT
WASHINGTON STATE UNIVERSITY
Interactions of the Biotrophic Stem Rust Pathogen and its Hosts

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
CHROMOSOME MANIPULATION IN GRAMINAE

PROJ TYPE: HATCH
PURDUE UNIVERSITY
WHEAT AND OAT GENETICS AND BREEDING

PROJ TYPE: HATCH
KANSAS STATE UNIV
Analysis of Potentially Durable Adult Plant Resistance to Leaf Rust and Resistance to Other Diseases in the D Genome of Wheat

PROJ TYPE: HATCH
KANSAS STATE UNIV
Wheat Genetic Improvement

PROJ TYPE: HATCH
LOUISIANA STATE UNIVERSITY
Small Grain Genetic Improvement, Variety Testing, and Cultural Practices

PROJ TYPE: HATCH
UNIV OF MINNESOTA
MOLECULAR CYTOGENETICS IN PLANT IMPROVEMENT

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
DNA Marker-Assisted Small Grains Breeding

PROJ TYPE: HATCH
NORTH DAKOTA STATE UNIV
Pathogenicity, Variation and Control of Barley Diseases in North Dakota

PROJ TYPE: HATCH
OHIO STATE UNIVERSITY
Improved techniques and equipment for safe, effective, efficient and environmentally-sound application of pesticides

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
Forecasting, epidemiology, and management of plant diseases

PROJ TYPE: HATCH
SOUTH DAKOTA STATE UNIVERSITY
Epidemiology and Management of Fungal Diseases of Small Grain Cereal Crops

PROJ TYPE: HATCH
UTAH STATE UNIVERSITY
Breeding and Testing Improved Varieties of Spring Barley, Wheat and Oats

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Genetic and Molecular Analysis of the Stem Rust Resistance Genes Rpg1 and Rpg5: Mechanisms of Resistance and Signaling Pathways

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
BREEDING AND GENETICS OF BARLEY

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF ILLINOIS EXTENSION
PEST DETECTION - NORTH CENTRAL INTEGRATED PEST MANAGEMENT CENTER AT THE UNIVERSITY OF ILLINOIS

PROJ TYPE: SPECIAL GRANT
KANSAS STATE UNIV
Wheat Genetic and Genomic Resources Center at Kansas State University

PROJ TYPE: SPECIAL GRANT
KANSAS STATE UNIV
Network Analysis for Forecasting the Spatial Progress of Soybean Rust Epidemics and Optimizing Sentinel Plot Strategies

PROJ TYPE: SPECIAL GRANT
OHIO STATE UNIVERSITY
Research on Emerging Animal and Plant Diseases at OARDC

Corn Ethanol

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension research related to corn ethanol, including the participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$2,452,000	$1,961,000	$1,244,000	$1,244,000	$1,244,000
ERS	744,240	759,429	759,429	559,429	562,226
NIFA	190,000	440,000	332,000	0	0
Total	3,386,240	3,160,429	2,335,429	1,803,429	1,806,226

Two Agricultural Research Service (ARS) projects benefit the corn ethanol industry. In addition to developing new milling methods to reduce corn ethanol production costs, ARS scientists have been developing new technologies for the production of new, high-value co-products for corn ethanol plants since fiscal year 2009. Also, a multiple institution project to develop genomic tools to assist corn plant breeders is being led by ARS laboratories. The Germplasm Enhancement of Maize (GEM) project involves 60 cooperators from other ARS laboratories, State and foreign universities, private industry, international organizations, and nongovernmental organizations. Since 2001, GEM has released more than 220 new corn lines to cooperators for further development into elite commercial hybrids that help corn producers reduce risks from new or evolving insect and disease threats or changes in the environment or to respond to new marketing opportunities and demands to meet the increasing demand for corn as a food, feed, and ethanol crop.

In FY 2013, ARS plans to continue present research efforts in developing value-added products to increase the profitability of ethanol producers, and to improve the genetic performance of corn.

The Economic Research Service (ERS) conducted research during FYs 2009 through 2012 to evaluate the effect of an array of policy measures that influence the magnitude, source, and composition of U.S. biofuel corn ethanol production, ethanol imports, and exports. ERS also conducted research on the land allocation implications of expanding corn ethanol production in the United States and sugar-cane ethanol in Brazil, and quantified these effects at the global level for 2015.

ERS research addressed how crop and livestock sectors respond to greater demand for corn ethanol and the implications of these regional adjustments on input use, water quality, and soil erosion. Corn usage for ethanol helps to drive long-term forecasts of crop prices, returns to livestock production, agricultural trade, and budget expenditures. This research has addressed acreage shifts needed to accommodate higher corn use for ethanol, and the effects on domestic feed use and corn exports. Research on the influence of rising commodity prices on the Conservation Reserve Program (CRP) examined the effects on the composition and environmental attributes of CRP acreage from price changes due to increasing biofuels production. ERS also analyzed the effects of greater biofuels use on the U.S. economy in 2022, focusing on how the mix of policies and energy price assumptions affect economic welfare. Other studies examined the Role of Renewable Identification Numbers (RINs), the supply and use of Distillers' Grains, implications of expanded ethanol production on cropping practices and land use, and global investment in the biofuels industry.

During FY 2013, ERS research will continue to examine how crop and livestock sectors respond to greater demand for corn ethanol and the implications of these regional adjustments on input use, water quality, and soil erosion; federal policy mechanisms that could be applied to enhance production incentives, redistribute effects among agricultural sectors, and limit adverse environmental outcomes; and the national, regional, and farm household economic effects of corn ethanol production. ERS will also continue to explore the economic relationships between energy and agricultural markets in order to improve and enhance routine market outlook and forecasting activities for the major agricultural commodities.

The National Institute of Food and Agriculture has supported research on corn ethanol. It expects to provide $0 in FY 2012 and estimates $0 in 2013. Recipient data for 2009 and 2010 is provided for the record for corn ethanol. 2011 data is not yet available.

NIFA CORN ETHANOL Recipients

FY 2009

UNIVERSITY OF NEBRASKA
STARCH TECHNOLOGY: PRODUCTION, CHARACTERIZATION, AND UTILIZATION

PURDUE UNIVERSITY
Properties of Biomaterials Related to their Utilization and to Quality Detection and Preservation

IOWA STATE UNIVERSITY
Developing Value-Added Agricultural Commodities, Ensuring Their Safety, and Facilitating Technology

Kansas State University
Management of Stored Product Insect Pests with Pesticide Alternatives

UNIVERSITY OF ARKANSAS
Contributions of Ecological, Epidemiogical and Host Resistance Factors to the Development of Diseases of Zea Mays, Sorghum Bicolor and Aeschynomene Virginia

UNIVERSITY OF TENNESSEE
Cereal Breeding

UNIVERSITY OF KENTUCKY
New Crop Opportunities, KY, Phase VII

UNIVERSITY OF ARIZONA
The Significance of Fungal Pathogens and Endophytes of Teosinte to Understanding and Mitigating Disease of Corn

UNIV OF HAWAII
Corn Improvement for Feed, Food and Energy in Hawaii

UNIVERSITY OF NEBRASKA
Ecology, management, and detection of important corn diseases and mycotoxins in Nebraska

PENNSYLVANIA STATE UNIVERSITY
Improving Corn Silage Small Grain and Canola Production in Pennsylvania

UNIVERSITY OF ILLINOIS
Functional genomics for maize kernel growth responses to N

UNIV OF MINNESOTA
Strategies for Using Molecular Markers to Simultaneously Improve Corn Grain Yield and Stover

UNIVERSITY OF ILLINOIS
NUCLEOTYPE MANIPULATION FOR INCREASED BIOMASS IN CROP PLANT SPECIES

PENNSYLVANIA STATE UNIVERSITY
Regulation of Photosynthetic Processes (Rev. NC-1142)

IOWA STATE UNIVERSITY
Improving the Suitability of Maize for Bioenergy and Feed

KANSAS STATE UNIV
Deficit Irrigation Strategies for Crop Production in Western Kansas

PURDUE UNIVERSITY
Ecological Services Of Agro-Biofuels: Productivity, Soil C Storage, And Air And Water Quality

IOWA STATE UNIVERSITY
Biotechnology Test Production, IA - Advanced Corn Biorefineries

MISSISSIPPI STATE UNIV
Corn Crop Responses to Ultraviolet-B Radiation and
Temperature: Measurements and Algorithm Development for Modeling; $0

CORNELL UNIVERSITY
The Role of Common Mycorrhizal Networks in Nutrient Translocation in Mixed Cropping Systems

AGRICULTURAL RESEARCH SERVICE; Genomic Resources to Accelerate Western Corn Rootworm Research

UNIVERSITY OF NEBRASKA
Marketing and Delivery of Quality Grains and BioProcess Coproducts

MICHIGAN STATE UNIV
Regional Biomass Processing Centers for Sustainable Biofuels and Animal Feeds

UNIV OF WISCONSIN
Agronomic Management Factors Influencing Corn Stover Composition for Bio-fuel and Silage

FY 2010

UNIVERSITY OF NEBRASKA
STARCH TECHNOLOGY: PRODUCTION, CHARACTERIZATION, AND UTILIZATION

PURDUE UNIVERSITY
Properties of Biomaterials Related to their Utilization and to Quality Detection and Preservation

IOWA STATE UNIVERSITY
Developing Value-Added Agricultural Commodities, Ensuring Thier Safety, and Facilitating Technology Transfer

UNIVERSITY OF ARKANSAS
Contributions of Ecological, Epidemiogical and Host Resistance Factors to the Development of Diseases of Zea Mays, Sorghum Bicolor and Aeschynomene Virginica

RUTGERS UNIVERSITY
Molecular Basis for Control of the Nutritional Properties of Crop Plants

UNIVERSITY OF TENNESSEE
Cereal Breeding

UNIVERSITY OF ARIZONA
The Significance of Fungal Pathogens and Endophytes of Teosinte to Understanding and Mitigating Disease of Corn

UNIV OF HAWAII
Corn Improvement for Feed, Food and Energy in Hawaii

UNIVERSITY OF NEBRASKA
Ecology, management, and detection of important corn diseases and mycotoxins in Nebraska

PENNSYLVANIA STATE UNIVERSITY
Improving Corn Silage Small Grain and Canola Production in Pennsylvania

UNIVERSITY OF ILLINOIS
NUCLEOTYPE MANIPULATION FOR INCREASED BIOMASS IN CROP PLANT SPECIES

PENNSYLVANIA STATE UNIVERSITY
Regulation of Photosynthetic Processes (Rev. NC-1142)

IOWA STATE UNIVERSITY
Improving the Suitability of Maize for Bioenergy and Feed

KANSAS STATE UNIV
Deficit Irrigation Strategies for Crop Production in Western Kansas

CORNELL UNIVERSITY
The Role of Common Mycorrhizal Networks in Nutrient Translocation in Mixed Cropping Systems

UNIVERSITY OF NEBRASKA
Marketing and Delivery of Quality Grains and BioProcess Coproducts

MICHIGAN STATE UNIV
Regional Biomass Processing Centers for Sustainable Biofuels and Animal Feeds

UNIV OF WISCONSIN
Agronomic Management Factors Influencing Corn Stover Composition for Bio-fuel and Silage

Human Nutrition

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to human nutrition, including the participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$85,309,000	$89,734,000	$85,440,000	$85,438,000	$84,310,000
ERS	15,475,000	15,874,000	15,874,000	14,874,000	14,916,405
NIFA	115,597,000	123,914,000	158,423,000	112,647,000	119,627,000
Total	216,381,000	229,522,000	259,737,000	212,959,000	218,853,405

The Agricultural Research Service (ARS) conducts research in a network of six human nutrition centers, the first of which was established more than 110 years ago. Nutritional value of food has been a priority of USDA since its founding and many of the methods of modern nutrition research can be traced to USDA work, including establishing requirements for many nutrients and the caloric value of foods. While much of agricultural production research emphasizes greater yields and efficiency, the ARS nutrition program affords the ability to evaluate nutrition and health value of crops and includes discovery of knowledge that adds to the scientific basis for dietary guidance for health promotion and disease prevention, prevention of obesity and related chronic conditions, nutritional needs throughout the human lifecycle, and monitoring composition of the national food supply and dietary intake. All of these priorities contribute to setting of Dietary Reference Intakes (DRI) for required nutrients by the National Academy of Sciences' Institute of Medicine (ARS research has supplied more than half of all data used for the DRIs) and to the Dietary Guidelines for Americans. The Dietary Guidelines are a joint effort of USDA and the Department of Health and Human Services updated every 5 years which forms the basis for Federal nutrition policy affecting USDA expenditures on school lunch; the Women, Infants, and Children (WIC) program; the Supplemental Nutrition Assistance Program; and other USDA-funded food and nutrition programs. In 2013, ARS plans to enhance nutrition surveillance capability by developing new electronic tools that link food consumption and composition to Federal dietary policy, and to enhance the functionality of the food composition database that enables tracking over time and differentiation by brand name of foods and nutrients of concern to public health.

During fiscal years 2009 through 2012, the Economic Research Service (ERS) conducted research on the economic, regulatory, programmatic, and market forces influencing consumer food choices and the effect of these choices on nutritional, obesity, and health outcomes. From 2009 through 2011, ERS allocated resources to nutrition research in three areas:

- ERS researchers conducted a wide range of economic analyses and anticipatory research on food policy issues impacting food choice and human nutrition.
- To better understand the complex determinants of food choices, ERS supported its research program with investments in data on food purchases, food program participation, food prices, nutrition knowledge, and consumer psychology.
- Extramural research, drawing upon the multidisciplinary expertise of outside researchers and the resources of numerous institutions and universities across the country, has recently focused on food assistance and children (2009); the "built environment" and behavioral economics (2010); food assistance and the recession (2011); and the economics of beverage choices (2012).

Extramural Research Agreements funding Nutrition Research

Title	Year	External Institution	Amount
2009 American Time Use Research Conference	2009	University of Maryland	27,700
De-stigmatizing Fruits and Vegetables in School Cafeterias	2009	Cornell University	29,000
The National Household Food Acquisition and Purchase Study	2009	Mathematica Policy Research, Inc.	4,270,000
Food prices and obesity	2009	University of Illinois at Chicago	29,418
The impacts of food scare events on brand choices and consumption	2009	Rutgers University	36,000

Title	Year	External Institution	Amount
Behavioral economic and food selection: a new basis for promoting health choices	2009	International Life Science Institute	15,000
Energy Use and Employment Impacts of a Healthier Diet: A U.S. Multiregional Assessment	2010	Pennsylvania State University	97,833
Occupation, Health Behaviors, and Obesity	2010	Tulane University	55,000
Dynamic Participation in the Supplemental Nutrition Assistance Program and its Impact on Child Overweight	2010	University of Michigan	25,000
Getting Subsidized Food All Over Your Family	2010	University of North Carolina-Greenboro	25,000
Can Default Options and Incentives Improve Food Choices at School?	2010	Brigham Young University	150,000
Child Well-being in Families with Job Loss, Divorce or Separation: The Effects of Food Assistance Programs	2010	University of Michigan	140,000
Children of Immigrants' Food Insecurity and SNAP Receipt	2010	Mathematica Policy Research, Inc.	180,000
Children's Food Choices: Understanding Defaults	2010	University of South Carolina	25,000
Cornell Center for Behavioral Economics in Child Nutrition Programs	2010	Cornell University	1,000,000

Title	Year	External Institution	Amount
Developing Research Capacity To Test Behavioral Economic Interventions In Child Nutrition Programs	2010	University of Minnesota	30,000
Drawing Attention to Healthy Choices with Lighting	2010	University of Connecticut	30,000
Dynamics of Childhood Obesity	2010	Georgia State University	225,000
Economic Research on the Joint Contributions of the Supplemental Nutrition Assistance Program and Unemployment Insurance	2010	University of Baltimore/Jacob France Institute	500,000
Food Security and Access to Retail Food Establishments Among Emergency Food Program Recipients	2010	Mathematica Policy Research, Inc.	180,000
Food Stamp Participation and Obesity	2010	University of California	22,661
Improving School Lunch Decisions with Fast Lane Meal Deals	2010	Pennsylvania State University	40,000
Incentivizing Fruit and Vegetable Consumption in Elementary Schools	2010	Utah State University	350,000
Influence of Developmental Differences on Children's Responses to Information on Foods	2010	University of Wisconsin	25,000
Is Healthy Eating Viral? Improving Understanding of How Social Networks Can Be Used to Influence School Food Choices	2010	Iowa State University	25,000

Title	Year	External Institution	Amount
Joint Contributions of the Supplemental Nutrition Assistance Program, Unemployment Insurance, and Cash Assistance to CA	2010	Public Policy Institute of California	97,961
Joint Participation in Supplemental Nutrition Assistance Program and Unemployment Insurance in Florida	2010	University of Missouri	107,254
Local Economic Conditions, Food Assistance and Food insecurity Among Households with Children	2010	Old Dominion University	185,000
Menu Modification for Lincoln Parish Child Nutrition Program	2010	Louisiana Tech University	30,000
Multi-Program Participation in SNAP and Unemployment Insurance: How Tight are the Strands of the Recessionary Safety Net?	2010	College of William of Mary	40,000
Nudging High School Students Toward Better School Lunch Food Choices: Planning Behavioral Economic Interventions in West VA	2010	West Virginia University	30,000
RIDGE Center for National Food and Nutrition Assistance Research at IRP	2010	University of Wisconsin-Madison	250,000
RIDGE Center for Targeted Food and Nutrition Assistance Research at SRDC	2010	Mississippi State University	250,000
Smarter Choices Through Nutritional Report Cards	2010	Cornell University	30,000

Title	Year	External Institution	Amount
Testing a Food Choice Innovation for Middle School Cafeterias	2010	University of North Texas	30,000
Using Nudges from Cafeterias and Parents to Encourage Healthy Food Choices at School	2010	Baylor College of Medicine	175,000
Using Positive Deviance Principles to Identify Best Practices of Choice Architecture and Build Research Capacity with School	2010	Oklahoma State University	30,000
Weekday and Weekend Eating: Assessing the Effect of School Meals	2010	Cornell University	125,000
WIC Food Package Revisions: Impact on Food Purchases and Access to Healthy Foods	2010	Yale University	265,000
WIC, Food Insecurity, and Child Health in Massachusetts	2010	Simmons College	200,000
An Examination of WIC Participant Redemption Patterns In Kentucky Prior to and After Implementation of Electronic Benefits Transfer	2011	Altarum Institute	175,870
Behavioral Economics Based Strategies for Improving Consumption of Healthy Foods Provided as Part of NSLP School Meals	2011	American University	30,000
Cornell Center for Behavioral Economics in Child Nutrition Programs	2011	Cornell University	571,000
Effect of New WIC Food Packages on Breastfeeding and Food Package Choices	2011	National Bureau of Economic Research	197,696
Food APS Geography Study (Illinois)	2011	University of Illinois, Urbana-Champagne	655,000

Title	Year	External Institution	Amount
Food APS Geography Study (Tufts)	2011	Tufts University	290,000
Long-term Effects of Incentivizing Fruit and Vegetable Consumption	2011	Utah State University	155,399
RIDGE Center for National Food and Nutrition Assistance Research	2011	University of Wisconsin-Madison	250,000
RIDGE Center for Targeted Food and Nutrition Assistance Research	2011	Mississippi State University	250,000
The Economics of Beverage Choices among WIC and SNAP participants	2011	Yale University	128,596
The Effect of Food Programs on Alternative Poverty Measures	2011	The Urban Institute	170,663
The Food Environment: The Effects of Content on Food Choice	2011	Iowa State University	5,000
The Impact of Food Deserts on the Healthy Outcomes of the Elderly	2011	Kent State University	10,000
The Impact of Nutrition on Health Outcomes	2011	Stanford University	30,000
The Supplemental Nutrition Assistance Program and Household Spending: A Flexible Demand System Approach	2011	Clemson University	105,000
U.S. Diet Quality: Temporal Polarization and Nonparametric Measurement	2011	University of Minnesota	25,000
Using Nudges and Incentives to Promote Long-Run Consumption of Fruits and Vegetables in Children	2011	Brigham Young University	243,985
Using the National Food and Nutrition Survey (NATFAN) to Examine WIC Participant Food Choices and Intakes Before and After Changes in the Food Benefit	2011	Texas A&M University	200,000

Title	Year	External Institution	Amount
California WIC: Analysis of Vendor Behavior and Program Impacts on Food Cost	2011	University of California, Davis	25,000
RIDGE Center for National Food and Nutrition Assistance Research	2012	University of Wisconsin-Madison	250,000
RIDGE Center for Targeted Food and Nutrition Assistance Research	2012	Mississippi State University	250,000

During fiscal year 2013, ERS plans to continue ongoing research in these high-priority areas, including analysis of how food choices and health outcomes are related to USDA food assistance programs and community characteristics, determinants of food insecurity among the disabled, healthful eating choices for those living in food deserts, consumer demand for fruits and vegetables, understanding determinants of fluid milk consumption, and analysis of the prices of healthful foods. Initial data from the Food Acquisition and Purchase Survey (FoodAPS) will be delivered to ERS in fiscal year 2013 as well. The survey will provide valuable data and information that will be used for years in the future to examine issues related to food policy and program operations. Results of analyses will begin to be published beginning in 2014. Current plans call for an unrestricted data set to be made available to the public in 2014 as well, thereby encouraging widespread use of this important investment in consumers' food acquisition decisions.

ERS activities related to *Human Nutrition*	FY 2009 Actual	FY 2010 Actual	2011 Actual	FY 2012 Estimated	FY 2013 Budget
Extramural research (FANRP + RIDGE)	$4,407,118	$4,970,709	$3,518,208	$3,408,000	$3,408,000
Intramural Human Nutrition Research	7,567,882	7,403,291	8,855,792	8,481,000	8,523,405
Data on food prices, purchases, and consumption	3,500,000	3,500,000	3,500,000	2,985,000	2,985,000
Total	15,475,000	15,874,000	15,874,000	14,874,000	14,916,405

The National Institute of Food and Agriculture supports research on human nutrition. Projects will focus on children and youth aged 2-19 to identify the behavioral factors that influence obesity, develop valid behavioral and environmental instruments that measure progress in obesity prevention efforts, and fund nutrition research to develop and evaluate effective programs to prevent obesity. Funding will support research and outreach efforts to develop and increase consumption of healthy foods that are low in energy (fats and sugars) and salt, and high in nutrient density and that are appealing, particularly to children. Recipients of funding for human nutrition include land-grant institutions and public and private universities and colleges. Recipient data for 2009 and 2010 is provided for the record for the Agriculture and Food Research Initiative (AFRI), and the Expanded Food and Nutrition Education Program (EFNEP) for human nutrition. 2011 data is not yet available. Also, AFRI funds may be carried over from year-to-year such that funds appropriated in one year may not be actually awarded in the appropriation year. Specific recipient data is not available for additional programs that support human nutrition, including Hatch Act, Evans-Allen, Special Research Grants, Smith-Lever 3b&c, and 1890's and Tuskegee.

NIFA Human Nutrition Recipients

Agriculture and Food Research Initiative (AFRI)

FY 2009

Recipients	Award Amount	Title
The Florida State University	$125,000	Anti-Atherogenicity of Flaxseed
South Dakota State University	100,000	Calcium Signaling and Apoptosis in Obesity
Tufts University	490,000	Zeaxanthin and age-related macular degeneration: Mechanisms of action
Tufts University	125,000	Interaction between one-carbon nutrient status and polymorphisms in uracil repair genes in determining DNA stability
University of Vermont	349,789	The Impact of Milk Fat-Derived Bioactive Fatty Acids on the Fetal Programming of Atherosclerosis
The University of Alabama	482,090	Establishing Whether Chromium Is an Essential Element: Absorption, Transport, and Mode of Action
West Virginia University	100,000	The Effects of Different Structural Forms and Ratios of Bioactive Omega-3 Fatty Acids on Tissue Deposition and Lipid Responses
Oregon State University	475,580	Vitamin E as a Potentiator of Vitamin K Inadequacy
Texas A&M University-Kingsville	100,000	The effect of orange pulp and bioactive crude extract on bone quality in ovariectomized rats

Recipients	Award Amount	Title
Cornell University	499,789	Impact of maternal anemia on neonatal iron status, placental iron transport and functional outcomes at birth among pregnant adolescents
Kansas State University	34,924	Determining the exercise intensities of gardening tasks
Louisiana State University Agricultural Center	100,000	Building Preferences for Fruits and Vegetables by Low-Income Elementary School Students
Agricultural Research Service, Pacific West Area	419,309	Impact of foods high in carotenoids on plasma and breastmilk levels of carotenoids in lactating women with marginal vitamin A status
University of Illinois, Urbana-Champaign	467,471	Stress, Financial Management, and Childhood Obesity
University of Alaska Fairbanks	70,529	Alaska Food Plan Pilot Project
USDA, Agricultural Research Service	460,000	Impact of Eating Breakfast on Food Intake Behaviors and Food Choice
Delaware State University	99,993	Evaluate the health benefit of Njansa Oil Seed through its effect on Expression genes involve Lipid Biosynthesis in Hen.
Regents of the University of Minnesota	750,000	Whole Grain Ingredients: Health Benefits of Bioactive Phytonutrients and Dietary Fibers from Cereal Grains

Recipients	Award Amount	Title
Colorado State University	712,764	Specialty potato as an effective delivery mechanism for bioactive carotenoids and anthocyanins to promote energy balance - an integrated app
Regents of the University of California	389,729	Guided Goal-Setting to Achieve Behavior Change Associated with Healthy Weight Maintenance Among Low-Income Mothers and Children
Virginia Polytechnic Institute and State University	628,103	Cost Effectiveness of Nutrition Education Programs for Limited Resource Youth
ABOR, University of Arizona	1,476,301	Stealth Health:Youth Innovation, Mobile Technology, Online Social Networking and Informal Learning to Promote Physical Activity
American Samoa Community College	100,000	To Enhance Human Nutrition and Obesity Intervention in the Context of American Samoa Cultural & Familial Structure
Michigan State University	1,500,000	Healthy Babies through Infant-Centered Feeding
Rutgers, The State University of NJ	271,652	Effectiveness of an Indoor Walking Protocol for Use By EFNEP and FSNE Programs to Increase Physical Activity
Oregon State University	1,227,533	Promotion of healthy eating and regular physical activity in 2- to 5-year old children attending family child care homes

Recipients	Award Amount	Title
Montana State University Extension	1,496,920	Family Influences to Prevent Childhood Obesity: An Integrated Research and Outreach Program for Parents of Montana 4-H Youth
University of Colorado Denver	1,400,000	America On the Move Family Program for Weight Gain Prevention
South Dakota State University	1,499,491	Development of a Randomized Trial Guided by the Process of PRECEDE-PROCEED for Prevention of Excessive Weight Gain in Communities of Young A
Total	$15,951,967	

The Expanded Food and Nutrition Education Program (EFNEP)

FY 2009

Recipient	Award Amount	Title
Alabama A&M University	$106,130	The Expanded Food and Nutrition Education Program
Alcorn State University	109,503	The Expanded Food and Nutrition Education Program
American Samoa Community College	103,374	The Expanded Food and Nutrition Education Program
Auburn University	1,967,213	The Expanded Food and Nutrition Education Program
Clemson University	1,545,508	The Expanded Food and Nutrition Education Program
College of Micronesia	106,339	The Expanded Food and Nutrition Education Program
Colorado State University	637,447	The Expanded Food and Nutrition Education Program

Recipients	Award Amount	Title
Cornell University	3,389,229	The Expanded Food and Nutrition Education Program
Delaware State University	101,251	The Expanded Food and Nutrition Education Program
Florida A&M University	135,183	The Expanded Food and Nutrition Education Program
Fort Valley State University	118,302	The Expanded Food and Nutrition Education Program
Iowa State University	948,262	The Expanded Food and Nutrition Education Program
Kansas State University	752,122	The Expanded Food and Nutrition Education Program
Kentucky State University	110,911	The Expanded Food and Nutrition Education Program
Langston University	108,979	The Expanded Food and Nutrition Education Program
Lincoln University	111,536	The Expanded Food and Nutrition Education Program
Louisiana State University	1,870,923	The Expanded Food and Nutrition Education Program
Michigan State University	1,813,205	The Expanded Food and Nutrition Education Program
Mississippi State University	1,708,413	The Expanded Food and Nutrition Education Program
Montana State University	380,524	The Expanded Food and Nutrition Education Program
New Mexico State University	589,841	The Expanded Food and Nutrition Education Program
North Carolina A&T State University	117,258	The Expanded Food and Nutrition Education Program
North Carolina State University	2,499,997	The Expanded Food and Nutrition Education Program
North Dakota State University	419,839	The Expanded Food and Nutrition Education Program

Recipients	Award Amount	Title
Northern Marianas College	103,231	The Expanded Food and Nutrition Education Program
Oklahoma State University	1,099,154	The Expanded Food and Nutrition Education Program
Oregon State University	579,915	The Expanded Food and Nutrition Education Program
Pennsylvania State University	2,662,354	The Expanded Food and Nutrition Education Program
Prairie View A&M University	155,817	The Expanded Food and Nutrition Education Program
Purdue University	1,246,690	The Expanded Food and Nutrition Education Program
Rutgers, the State University of New Jersey	1,122,654	The Expanded Food and Nutrition Education Program
South Carolina State University	109,725	The Expanded Food and Nutrition Education Program
South Dakota State University	461,872	The Expanded Food and Nutrition Education Program
Southern University	114,510	The Expanded Food and Nutrition Education Program
Tennessee State University	113,402	The Expanded Food and Nutrition Education Program
Texas A&M University	4,213,276	The Expanded Food and Nutrition Education Program
The Ohio State University	2,195,231	The Expanded Food and Nutrition Education Program
The University of Tennessee	1,972,104	The Expanded Food and Nutrition Education Program
Tuskegee University	106,130	The Expanded Food and Nutrition Education Program
University of Alaska - Fairbanks	261,814	The Expanded Food and Nutrition Education Program
University of Arizona	676,244	The Expanded Food and Nutrition Education Program

Recipients	Award Amount	Title
University of Arkansas	1,286,971	The Expanded Food and Nutrition Education Program
University of Arkansas at Pine Bluff	107,442	The Expanded Food and Nutrition Education Program
University of California - Davis	3,512,360	The Expanded Food and Nutrition Education Program
University of Connecticut	530,388	The Expanded Food and Nutrition Education Program
University of Delaware	306,340	The Expanded Food and Nutrition Education Program
University of Florida	2,129,533	The Expanded Food and Nutrition Education Program
University of Georgia	2,161,955	The Expanded Food and Nutrition Education Program
University of Guam	103,555	The Expanded Food and Nutrition Education Program
University of Hawaii at Manoa	345,497	The Expanded Food and Nutrition Education Program
University of Idaho	379,026	The Expanded Food and Nutrition Education Program
University of Illinois	2,141,741	The Expanded Food and Nutrition Education Program
University of Kentucky	1,670,899	The Expanded Food and Nutrition Education Program
University of Maine	495,361	The Expanded Food and Nutrition Education Program
University of Maryland - College Park	900,557	The Expanded Food and Nutrition Education Program
University of Maryland - Eastern Shore	107,709	The Expanded Food and Nutrition Education Program
University of Massachusetts	1,025,051	The Expanded Food and Nutrition Education Program
University of Minnesota	1,038,370	The Expanded Food and Nutrition Education Program

Recipients	Award Amount	Title
University of Missouri - Columbia	1,569,764	The Expanded Food and Nutrition Education Program
University of Nebraska - Lincoln	604,306	The Expanded Food and Nutrition Education Program
University of Nevada	274,880	The Expanded Food and Nutrition Education Program
University of New Hampshire	321,965	The Expanded Food and Nutrition Education Program
University of Puerto Rico	1,446,466	The Expanded Food and Nutrition Education Program
University of Rhode Island	384,493	The Expanded Food and Nutrition Education Program
University of the District of Columbia	110,944	The Expanded Food and Nutrition Education Program
University of the Virgin Islands	103,451	The Expanded Food and Nutrition Education Program
University of Vermont	318,118	The Expanded Food and Nutrition Education Program
University of Wisconsin	1,007,817	The Expanded Food and Nutrition Education Program
University of Wyoming	275,416	The Expanded Food and Nutrition Education Program
Utah State University	397,168	The Expanded Food and Nutrition Education Program
Virginia State University	111,893	The Expanded Food and Nutrition Education Program
Virginia Tech	1,701,167	The Expanded Food and Nutrition Education Program
Washington State University	769,375	The Expanded Food and Nutrition Education Program
West Virginia State University	105,555	The Expanded Food and Nutrition Education Program
West Virginia University	1,018,535	The Expanded Food and Nutrition Education Program

Recipients	Award Amount	Title
Payment to States	65,709,480	
Federal Administration	445,520	
Total Appropriation	66,155,000	

The Expanded Food and Nutrition Education Program (EFNEP)

FY 2010

Recipients	Award Amounts	Title
Alabama A&M University	$111,678	The Expanded Food and Nutrition Education Program
Alcorn State University	118,102	The Expanded Food and Nutrition Education Program
American Samoa Community College	104,754	The Expanded Food and Nutrition Education Program
Auburn University	1,998,255	The Expanded Food and Nutrition Education Program
Clemson University	1,570,130	The Expanded Food and Nutrition Education Program
College of Micronesia	108,930	The Expanded Food and Nutrition Education Program
Colorado State University	655,326	The Expanded Food and Nutrition Education Program
Cornell University	3,505,150	The Expanded Food and Nutrition Education Program
Delaware State University	102,382	The Expanded Food and Nutrition Education Program
Florida A&M University	167,020	The Expanded Food and Nutrition Education Program
Fort Valley State University	134,864	The Expanded Food and Nutrition Education Program
Iowa State University	960,444	The Expanded Food and Nutrition Education Program

Recipients	Award Amount	Title
Kansas State University	764,160	The Expanded Food and Nutrition Education Program
Kentucky State University	120,786	The Expanded Food and Nutrition Education Program
Langston University	117,105	The Expanded Food and Nutrition Education Program
Lincoln University	121,976	The Expanded Food and Nutrition Education Program
Louisiana State University	1,907,660	The Expanded Food and Nutrition Education Program
Michigan State University	1,859,211	The Expanded Food and Nutrition Education Program
Mississippi State University	1,732,473	The Expanded Food and Nutrition Education Program
Montana State University	386,447	The Expanded Food and Nutrition Education Program
New Mexico State University	604,667	The Expanded Food and Nutrition Education Program
North Carolina A&T State University	132,876	The Expanded Food and Nutrition Education Program
North Carolina State University	2,543,694	The Expanded Food and Nutrition Education Program
North Dakota State University	423,232	The Expanded Food and Nutrition Education Program
Northern Marianas College	104,552	The Expanded Food and Nutrition Education Program
Oklahoma State University	1,121,889	The Expanded Food and Nutrition Education Program
Oregon State University	597,741	The Expanded Food and Nutrition Education Program
Pennsylvania State University	2,721,194	The Expanded Food and Nutrition Education Program
Prairie View A&M University	206,327	The Expanded Food and Nutrition Education Program

Recipients	Award Amount	Title
Purdue University	1,272,660	The Expanded Food and Nutrition Education Program
Rutgers, the State University of New Jersey	1,153,882	The Expanded Food and Nutrition Education Program
South Carolina State University	118,525	The Expanded Food and Nutrition Education Program
South Dakota State University	466,287	The Expanded Food and Nutrition Education Program
Southern University	127,640	The Expanded Food and Nutrition Education Program
Tennessee State University	125,529	The Expanded Food and Nutrition Education Program
Texas A&M University	4,354,599	The Expanded Food and Nutrition Education Program
The Ohio State University	2,248,099	The Expanded Food and Nutrition Education Program
The University of Tennessee	2,006,036	The Expanded Food and Nutrition Education Program
Tuskegee University	111,678	The Expanded Food and Nutrition Education Program
University of Alaska - Fairbanks	264,537	The Expanded Food and Nutrition Education Program
University of Arizona	707,995	The Expanded Food and Nutrition Education Program
University of Arkansas	1,305,813	The Expanded Food and Nutrition Education Program
University of Arkansas at Pine Bluff	114,176	The Expanded Food and Nutrition Education Program
University of California - Davis	3,727,040	The Expanded Food and Nutrition Education Program
University of Connecticut	542,008	The Expanded Food and Nutrition Education Program
University of Delaware	309,507	The Expanded Food and Nutrition Education Program

Recipients	Award Amount	Title
University of Florida	2,218,613	The Expanded Food and Nutrition Education Program
University of Georgia	2,208,295	The Expanded Food and Nutrition Education Program
University of Guam	105,009	The Expanded Food and Nutrition Education Program
University of Hawaii at Manoa	351,140	The Expanded Food and Nutrition Education Program
University of Idaho	386,198	The Expanded Food and Nutrition Education Program
University of Illinois	2,199,325	The Expanded Food and Nutrition Education Program
University of Kentucky	1,698,526	The Expanded Food and Nutrition Education Program
University of Maine	501,804	The Expanded Food and Nutrition Education Program
University of Maryland - College Park	920,076	The Expanded Food and Nutrition Education Program
University of Maryland - Eastern Shore	114,685	The Expanded Food and Nutrition Education Program
University of Massachusetts	1,050,594	The Expanded Food and Nutrition Education Program
University of Minnesota	1,056,051	The Expanded Food and Nutrition Education Program
University of Missouri - Columbia	1,599,007	The Expanded Food and Nutrition Education Program
University of Nebraska - Lincoln	611,945	The Expanded Food and Nutrition Education Program
University of Nevada	284,423	The Expanded Food and Nutrition Education Program
University of New Hampshire	325,683	The Expanded Food and Nutrition Education Program
University of Puerto Rico	1,518,980	The Expanded Food and Nutrition Education Program

Recipients	Award Amount	Title
University of Rhode Island	389,797	The Expanded Food and Nutrition Education Program
University of the District of Columbia	115,417	The Expanded Food and Nutrition Education Program
University of the Virgin Islands	104,862	The Expanded Food and Nutrition Education Program
University of Vermont	320,765	The Expanded Food and Nutrition Education Program
University of Wisconsin	1,028,723	The Expanded Food and Nutrition Education Program
University of Wyoming	277,983	The Expanded Food and Nutrition Education Program
Utah State University	406,890	The Expanded Food and Nutrition Education Program
Virginia State University	122,655	The Expanded Food and Nutrition Education Program
Virginia Tech	1,731,278	The Expanded Food and Nutrition Education Program
Washington State University	796,954	The Expanded Food and Nutrition Education Program
West Virginia State University	110,575	The Expanded Food and Nutrition Education Program
West Virginia University	1,032,591	The Expanded Food and Nutrition Education Program
Total	67,547,880	

Food Safety

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to food safety, including participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$105,695,000	$107,597,000	$106,789,000	$106,210,000	$108,254,000
ERS	1,250,000	1,470,000	1,470,000	1,420,000	1,426,360
NIFA	27,071,000	48,596,000	35,510,000	24,993,000	27,202,000
Total	134,016,000	157,663,000	143,769,000	132,623,000	136,882,360

The Agricultural Research Service (ARS) continues to conduct food safety research that covers various food-borne pathogens and food-borne contaminants, including chemicals, parasites, and toxins along the entire food safety continuum. ARS food safety research seeks ways to assess, control, or eliminate potentially harmful food contaminants, including introduced and naturally occurring pathogenic bacteria, viruses and parasites, toxins and nonbiologically based chemical contaminants, mycotoxins, and plant toxins. ARS conducts basic, applied, and developmental research resulting in new technologies, new and improved management practices, pest management strategies, sustainable production systems, and methods of controlling potential contaminants. ARS seeks to meet their stakeholder needs, especially appropriate regulatory agencies (specifically, Food Safety and Inspection Service (FSIS) and the Food and Drug Administration's (FDA's) Center for Food Safety and Nutrition and Center for Veterinary Medicine) for incorporation into Hazard Analysis and Critical Control Point programs for both large and small producers to develop risk assessments; interventions that can be incorporated into policy guidelines; and technologies for the detection, characterization, and enumeration of food-borne pathogens of public health concern. The ARS Food Safety Program also works with the USDA's Agricultural Marketing Service to provide scientific technical comments and recommendations for policy development, specifically for products purchased for the USDA-School Lunch Program. The ARS food safety program has implemented a new 5-year action research plan available at this address: http://www.ars.usda.gov/SP2UserFiles/Program/108/2011-2015ActionPlanforweb.pdf.

Specifically in FY 2012, ARS is addressing research in the following areas: developing and validating integrated science-based management practices to prevent and eliminate contamination of produce by enteric pathogens through the use of soil amendments; developing postharvest intervention strategies to eliminate pathogen contamination; conducting baseline studies (for a new risk assessment) to determine the level and types of *Listeria monocytogenes* in ready-to-eat foods; developing detection and characterization technologies that allow for and enhance inspection, research, and defense capabilities; and developing and implementing new analytical technologies for chemical contaminants.

In FY 2013, ARS research will address the following food safety priorities: (1) Evaluate, develop, and validate through laboratory and pilot plant processing and commercial processing facilities the effect of single and combinations of intervention technologies (multitarget [hurdle] approach on pathogen reduction. This will also include ensuring that lethality/intervention treatments do not negatively affect product quality. In developing these postharvest options, ARS will ensure that they are viable for small and very small regulated plants. (2) Evaluate the role of alternatives to antibiotics and the role of management practices and the environment on the prevalence of antimicrobial resistance and emerging pathogens in food animals.

During fiscal year 2013, ERS plans to continue and expand research in these high-priority areas, including the expected impacts of new food safety legislation on the farm and food sector; consumer response to food safety outbreaks in fresh produce; the costs and benefits of mandatory food safety programs implemented by produce grower organizations; the economic trade-offs for reducing sub-therapeutic antibiotic use in farm animals; and inter-agency collaborations to better understand and prioritize food safety risks and interventions.

ERS Extramural Research Agreements funding Food Safety

Title	Year	External Institution	Amount
Business Incentives for Food Safety: Theory and Empirical Evidence	2009	Texas A&M University	$37,552
Incentives and Structure in Determining Milk Quality and Safety Attributes	2009	Iowa State University	37,043
Traceability and Incentives for Food Safety	2009	Iowa State University	36,873
Food Safety Institutions: The Role of Legal Structure in the Determination of Economic Incentives	2009	University of California, Davis	40,000
The Impacts of Food Scare Events on Brand Choice and Consumption	2009	Rutgers University	36,000
Business Incentives for Food Safety: Theory and Empirical Evidence	2010	Texas A&M University	98,026
Market Effects of Alternative Food Safety Regulations for Fruits, Vegetables, and Tree Nuts	2010	University of California, Davis	99,868

Title	Year	External Institution	Amount
Estimating Food Attributable Fractions of Foodborne Illness from Time Series Data	2011	University of California at Berkeley	35,000
Cost of Adopting Food Safety Programs: A Lettuce Example	2011	Iowa State University	60,000
Innovation in Meat and Poultry Processing for Local Markets	2011	Oregon State University	103,000

ERS activities related to *Food Safety*	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
Food Safety research	$1,062,532	$1,272,106	$1,272,000	$1,272,000	$1,278,360
Cooperative agreements	187,468	197,894	198,000	148,000	148,000
Total	1,250,000	1,470,000	1,470,000	1,420,000	1,426,360

The National Institute of Food and Agriculture (NIFA) support research on food safety. Funds will be used to improve the safety of the U.S. food supply through new and improved rapid detection methods, pre- and post-harvest epidemiological studies, and improved food harvesting and processing technologies. NIFA will fund critical environmental and ecological research to improve our understanding of disease-causing microorganisms, and of naturally occurring contaminants in meats, poultry, seafood, and fresh fruits and vegetables. Funding will address efforts to minimize antibiotic resistance transmission through food chain, and microbial food safety hazards of fresh and fresh-cut fruits and vegetables. AFRI funds may be carried over from year-to-year such that funds appropriated in one year may not be actually awarded in the appropriation year. Final 2011 data is not yet available. 2009 and 2010 recipients are provided for the record.

NIFA Food Safety Recipients

National Integrated Food Safety Initiative (NIFSI)

FY 2009

Recipients	Award Amounts	Title
University of Maryland	$ 599,924	An Online Integrated Food Safety Risk Analysis Resource to Facilitate National and International Information Exchange
The Board of Regents of the UW System	600,000	Modeling Persistence of Non-O157 Shiga Toxin-Producing Escherichia coli in Beef Slaughter and Validation of Interventions Used in Processing
Oklahoma State University	968,497	Filth Fly Transmission of Human Enteric Bacteria to Pre-harvest Fresh Produce
Rutgers, The State University of NJ	600,000	Peer Networking and Social Norms Design: Implications for Food Safety Media and Behavioral Change
Cornell University	591,732	Improving the Safety of Acidified and Acid Foods Produced by Small-scale Food Processors in the Northeast
Drexel University	598,752	Identifying & Addressing Potential Poultry and Egg Mishandling Habits of Minority Ethnic and Racial Populations
Alabama State University	599,999	Food Safety Education for Early Childhood Educators and Young Children
The Ohio State University	597,841	Enhancement of Educational and Extension Communications for the Prevention of Milkborne Diseases
Tennessee State University	599,868	An Innovative Approach for Integrating Health Care Providers into Food Borne Illness Prevention for Older Adults
University of California, Davis	595,589	Evaluation and Application of Practices for Controlling Salmonella in Nuts and Nut Products

Recipients	Award Amounts	Title
The University of Illinois at Chicago	599,999	A Menu for AIDS Patients to Eat Safely
Michigan State University	599,939	Foodborne norovirus in elder care facilities: an integrated approach to prevention and control
The University of Tennessee	596,287	Investigating food safety self-efficacy in adolescent populations through survey research and an educational intervention
Regents of the University of Minnesota	600,000	Development of an Integrated Multi-Level Food Safety Training Program for Spanish-Speaking Food Service Workers
Iowa State University	598,607	Customization of Food Safety Messaging for Retail Foodservice Employees
The University of Georgia	598,541	Enhancing the Safety of Locally Grown Produce Through Research and Extension
University of Florida	597,808	Integrated Needs Assessment and National Training Program to Enhance Seafood and Aquaculture Product Safety
Board of Regents, Univ of Nebraska, Univ of Nebraska-Lincoln	599,992	Food Safety Assistance for Small Meat and Poultry Processors through Development and Implementation of "Industry Best Practices"
California Polytechnic State University	596,029	Predictive Growth Models for Escherichia coli O157:H7 on Fresh-Cut Produce During Transport and Cold Chain Distribution
Colorado State University	1,084,429	Quantifying Microbial Risks during Growth of Produce

Recipients	Award Amounts	Title
The Ohio State University	999,989	Pathogen inactivation in fresh produce by incorporation of sanitizers into existing operations within the produce chain
Total	$ 13,823,822	

FY 2010

Recipients	Award Amounts	Title
University of California, Davis	$ 50,000	Center for Produce Safety Research Symposium
The University of Illinois at Chicago	600,000	An evidence-based photonovella to encourage safe meat handling and cooking practices among low socio-economic status African Americans
Rutgers, The State University of New Jersey	600,000	Improving The Safety And Nutritional Adequacy Of The Home Food Supply Of Elderly Recipients Of Home Delivered Meals
Purdue University	600,000	Helping Childbearing-Aged Women Make Informed Decisions Regarding Seafood Consumption
Board of Regents, Univ of Nebraska, Univ of Nebraska-Lincoln	554,302	Food Safety for Diverse Families with Young Children
Kansas State University	600,000	Assessment and Reduction of Produce Food Safety Risks in the School Foodservice System
University of Delaware	50,000	Framing the Message about Seafood for Consumers - A Consensus Building Workshop for Stakeholders
The Ohio State University Research Foundation	1,000,000	An integrated approach to prevent and minimize foodborne enteric viruses in vegetables and fruits

Recipients	Award Amounts	Title
Sea Star International LLC	600,000	Minimizing The Risk Of Lm Cross-Contamination Of Deli Rte Foods By Developing New Sanitation Techniques & Eval. Cost Effective Training
Kansas State University	2,000,000	Practical interventions to effectively manage antibiotic resistance in beef and dairy cattle systems: a fully integrated approach
Texas Woman`s University	600,000	Integrated Strategies to Reduce Foodborne Illness and Food Allergic Reactions Associated with Independently Operated Restaurants
Cornell University	600,000	Assessing Risks and Implementing Food Safety Practices: Developing an On-Farm Decision Tree for Fresh Produce Growers
University of Florida Board of Trustees	600,000	ASSESSING SAFETY OF ENTERIC PATHOGENS ON FRESH PRODUCE INGREDIENTS DESTINED FOR UNCOOKED SAUCES/SALSA
University of Connecticut	600,000	Reducing egg-borne outbreaks of Salmonella Enteritidis by integrating research and extension
Colorado State University	600,000	Foodborne Pathogen Persistence: From identification of risk factors to communication of control strategies
Cornell University	520,005	Enhancing the Safety of Non-thermally Processed Apple Juice by Combining Microfiltration with Ultraviolet Treatment.
Virginia Polytechnic Institute and State University	600,000	Enhancing Food Safety through an Integrated Education and Outreach Program using Principles of Risk Management

Recipients	Award Amounts	Title
Texas A&M University	1,000,000	Role of surface-related factors on contamination and survival of pathogens in fresh produce grown in Texas and Mexico
Washington State University	2,000,000	Minimizing antibiotic resistance transmission: the dairy farm as a model system
Total	$ 13,774,307	

Agriculture and Food Research Initiative (AFRI)

FY 2009

Recipient	Award Amount	Title
The Ohio State University	$ 399,790	Mechanisms underlying dietary impacts of Escherichia coli 0157 shedding in cattle
Cornell University	397,498	Mechanisms of synergistic combinations of growth inhibitors for Listeria monocytogenes on RTE seafoods
United States Department of Agriculture	92,950	Survival of Pathogens in Manure and Biosolids Applied Soil
University of Michigan Medical School	125,000	Regulation of the Cts Type II Secretion System and its role in Genetic Variation of Campylobactor jejuni
West Texas A&M Univ./Texas Engineering Experiment Station	399,437	Quantification of the Relationship between Distiller`s Grains Co-Products and Escherichia coli 0157:H7 load in Real-world, Commercial Settin
The University of Georgia	399,154	Revealing the Mechanisms of Competitive Exclusion of Enteropathogens from the Intestinal Microbial Community

Recipients	Award Amounts	Title
The Ohio State University	399,924	Effectiveness of Reduced Agricultural Antimicrobial Usage as a Food Safety Intervention
Illinois Institute of Technology	359,852	Salmonella Thermal Resistance During Desiccation and Re-hydration in Low Water Activity Foods
University of North Carolina at Charlotte	398,874	Improving oyster quality by enhancing natural immunity
University of Wyoming	149,946	c-di-GMP signaling in E. coli O157:H7 biofilm formation and colonization in the gastrointestinal tract of beef cattle
University of Connecticut	366,107	Reducing S. Enteritidis and C.jejuni in chickens by dietary supplementation of plant-derived antimicrobials
The Texas A&M University System Health Science Center	399,954	Defining Salmonella Genes Important for Colonization and Persistence in Poultry
University of Florida	124,911	Effect of antimicrobial peptides on growth and survival of Vibrio spp. and their potential application to postharvest treatment of oysters
The Regents of the University of California	393,960	Influence of Moisture and Phyllosphere Microbiota on the Persistence of E. coli O157:H7 on Lettuce Plants
PENNSYLVANIA STATE UNIVERSITY-UNIV PARK	397,256	Development of a novel multilocus sequence typing (MLST) subtyping strategy for tracking the farm-to-fork transmission of Escherichia coli O
Arizona Board of Regents, University of Arizona	124,033	Characterization of genes involved in the production of pili by Campylobacter jejuni

Recipients	Award Amounts	Title
The Board of Regents of the UW System	393,841	Contamination of fruits, nuts, and vegetables by filamentous Salmonella; persistence and virulence
Southern University and A&M College	1,077,639	Reduction of Escherichia coli O157:H7 in Small-Scale Cow/Calf Operations using Best Management Practices
Washington State University	1,000,000	Differential epidemiology and ecology of clinical and bovine-biased genotypes of Escherichia coli O157:H7
Emory University	1,250,000	Identification and control of microbiological hazards in fruits and vegetables: A field epidemiological and intervention study in Mexico
Texas AgriLife Research	299,874	Integrating National Resource Information And Food System Signals To Identify Novel Methods For Control Of Microbial Contamination In Spinach
Total	$ 8,950,000	

Agriculture and Food Research Initiative (AFRI)

FY 2010

Recipients	Award Amount	Title
The Ohio State University	$ 0	Effectiveness of Reduced Agricultural Antimicrobial Usage as a Food Safety Intervention
Iowa State University	1,250,000	Molecular Epidemiology of Clostridium difficile food Contamination: Links to human CDI
Board of Regents, Univ of Nebraska, Univ of Nebraska-Lincoln	9,812,548	Shiga-toxigenic Escherichia coli (STEC)in the Beef Chain: Assessing and Mitigating the Risk by Translational Science, Education and Outreach

Recipients	Award Amounts	Title
University of Maine System acting through the Univ. of Maine	150,000	Simultaneous detection of Shiga toxin-producing Escherichia coli (STEC) and Salmonella from farm to fork
Arkansas State University	149,571	Study on Prevalence and Characterization of Shiga toxin-producing E. coli (STEC) from Cattle Farms in the Arkansas Delta Region
Board of Regents, Univ of Nebraska, Univ of Nebraska-Lincoln	954,804	Composition of the GI microbiota and predisposition to enterohemorrhagic E. coli colonization as complex polygenic traits in beef cattle
Michigan State University	999,345	Host, genetic, microbial, and environmental factors associated with Shiga toxin-producing Escherichia coli (STEC) shedding
Washington State University	999,374	Reducing Seasonal Increases in STEC Prevalence in Cattle to Reduce Human Exposures and Improve Public Health
University of Delaware	999,933	Inactivation of enteric foodborne viruses in high risk foods by non-thermal processing technologies
The University of Georgia	999,861	Advanced processing technologies as multiple hurdles to inactivate STEC and viruses during beef processing and on non-intact beef products
Washington State University	999,999	Control of Food-borne Bacterial and Viral Pathogens Using Microwave Technologies
University of Iowa	299,988	Staphylococcus Aureus: Is Raw Meat a Risk Factor for Colonization and Infection?
Agricultural Research Service, Beltsville Area	266,226	Managing the emerging risk of trichinellosis in organic and free range pork
University of Iowa	40,000	2nd ASM Conference on Methicillin-resistant Staphylococci in Animals: Veterinary and Public Health Implications

Recipients	Award Amounts	Title
Texas Woman`s University	450,365	Risk Assessment and Intervention Strategies for the Emerging Food Safety Threat of Ochratoxin in the United States
The University of North Carolina at Charlotte	50,000	International Conference on Vibrios in the Environment
Connecticut Agricultural Experiment Station	299,953	Nanoparticle Contamination of Agricultural Crop Species
University of Connecticut	299,986	A comprehensive study investigating the potential health risk of Clostridium difficile as a foodborne pathogen
AZ Board of Regents on behalf of Arizona State University	299,505	Advancing The Understanding Of The Zoonotic Risk Of ExPECs And Evaluation Of A Vaccine To Control These Contaminants In Poultry Production
St. Edward`s University	150,000	Strengthening Food Safety Research and Education Capacity at St. Edward's University Through a Faculty Sabbatical
Cornell University	487,758	A National Food Safety Education Program: building a multidisciplinary food safety training pipeline from K-12 to graduate school
West Virginia State University	50,000	Sponsoring the 16th Biennial Research Symposium of the Association of 1890 Research Directors
Total	$ 20,009,216	

Integrated Pest Management - IPM

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to integrated pest management, including participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$42,508,000	$44,184,000	$43,565,000	$42,899,000	$36,037,000
ERS	13,308	13,579	13,579	132,328	13,646
NIFA	29,294,000	29,527,000	19,344,000	11,882,000	11,838,000
Total	71,815,308	73,724,579	62,922,579	54,913,328	37,050,655

In support of the Department's Integrated Pest Management (IPM) goals and other IPM needs, the Agricultural Research Service (ARS) currently conducts more than 57 IPM research projects at 33 locations. Those projects are focused on minimizing pesticide inputs through the development of classical and augmentation biological control, cultural control, host-plant resistance, behavior modifying chemicals (e.g., pheromone mating disruptors and attracticides), sterile insect release techniques, resistance management, cultural and mechanical practices, improved pesticide application technologies, and other related pest control tactics. Target pests include a multitude of insects, mites, and ticks; plant pathogens and nematodes; and weeds. In addition, ARS funds the Area-wide Pest Management Program, which supports 5 to 10 multiyear IPM projects to facilitate the implementation and adoption of ARS-developed IPM technologies to control or suppress agricultural pests over multistate or multiregional areas through partnerships with growers, commodity groups, and State institutions, Federal and State agencies, and the private sector.

In 2013, ARS plans to focus on developing IPM programs for key invasive insects such as the brown marmorated stink bug, spotted wing drosophila, European grapevine moth, Asian longhorned beetle, emerald ash borer, Asian tiger mosquito, cattle fever tick, biting midges, bed bugs, fire ants, Argentine ant, crazy ant, sand flies, Lyme disease tick, corn rootworm, soybean aphid, kudzu bug, and varroa mite. IPM programs are developed for plant pathogens such as those that cause citrus greening, Pierce's disease, wheat rust Ug99, boxwood blight, wheat scab, sudden oak death, and laurel wilt. Weed research will develop novel weed management solutions based on an expanded knowledge of the biochemical and physiological processes critical in the development and reproduction of invasive and weedy plants, and develop biologically based invasive plant control strategies that require minimal inputs for implementation but have long-term sustainability that can be used as a component of IPM and as a stand-alone strategy.

The Economic Research Service (ERS) conducted research during FYs 2009 through 2011 to examine the determinants and value to U.S. soybean producers in managing Asian soybean rust outbreaks. In 2012 ERS plans to update the ERS Web page on pest management practices to reflect the recent Agricultural Resources Management Survey and NASS Agricultural Chemical Use surveys.

The National Institute of Food and Agriculture (NIFA) supports research on integrated pest management. Examples of the types of recipients of funding for Integrated Pest Management includes land-grant institutions and public and private universities and colleges. NIFA will continue to fund programs and projects which support research, education, and extension activities that promote pest management in general, and reduced risk pest management in particular. The agency's pest management programs are implemented through working partnerships with scientists in our nation's colleges and universities, other federal agencies and the private sector. Recipient data for 2009 and 2010 is provided for the record for Integrated Pest Management. FY 2011 data is not yet available.

Clerk's note: The data listing is too voluminous to print, and is on record in Committee files.

Colony Collapse Disorder

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to Colony Collapse Disorder, including participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$8,290,000	$10,000,000	$9,980,000	$10,128,000	$10,128,000
ERS	44,839	18,815	0	0	0
NIFA	2,887,000	2,916,000	2,969,000	2,969,000	2,974,000
Total	11,221,839	12,934,815	12,949,000	13,097,000	13,102,000

The Agricultural Research Service (ARS) has led an aggressive research effort in partnership with other federal agencies to address Colony Collapse Disorder (CCD) and advance the goals set forth in the CCD Action Plan (http://www.ars.usda.gov/is/br/ccd/ccd_actionplan.pdf). This program promises to help demonstrate and validate a combination of technologies to produce strong bee colonies capable of withstanding stresses associated with CCD. The focus is on the use of resistant bees, management of varroa mites with bee-friendly miticides, and supplemental diets to sustain overwintering populations and build up populations in the early spring.

For FYs 2009-2012, ARS has made significant progress in both understanding the disease and finding tools for ensuring bee health. Working with the Animal and Plant Health Inspection Service, ARS completed a nationwide survey of bee health that sets baseline values for pests and disease prevalence in the United States and can be used to regulate international trade in bees and bee products. ARS has found a link between exposure to pesticides and an increase in the pathogen nosema, a fungus linked with CCD in Europe. For bee health, ARS has developed bees resistant to the varroa mite, which is the most important cause of bee death. One bee line (Varroa Sensitive Hygiene or VSH) received a 2012 Federal Laboratory Consortium Award for Excellence in Technology Transfer. Working with Haas Inc., the new environmentally safe miticide HopGuard was commercialized and was also nominated for a technology transfer award. ARS is also pioneering new approaches to manage bee pests and diseases, based on information from sequencing of the genome of the honey bee, which ARS helped lead. For example, based on viral sequence information to determine targets, and working from a Cooperative

Research and Development Agreement with Beeologics, Inc., researchers were able to protect bees from viral infection in the first successful field demonstration of Ribonucleic acid (RNA) interference (RNAi; gene silencing) technology. Similar approaches are being investigated for control of other bee pests.

Because important research has gleaned clues to the causes of bee mortality such as CCD, and several goals for ensuring bee health have been met, ARS will go forward in FY 2013 with revising the CCD Action Plan, based on a major workshop to be held in the fall in Washington, D.C. Research will continue to focus on key bee mortality factors such as varroa mite, nosema, other diseases, and poor nutrition. In addition, ARS will use its expertise in bee breeding and genomics of bees and their parasites and pathogens to work with collaborators to discover and control the cause or causes of CCD. ARS will also emphasize the need for continued research on non-honey bee pollinators as alternatives to honey bees for pollination of almonds.

The 2010 CCD Progress Report to Congress (issued in June 2011) details CCD accomplishments of all Federal agencies and cooperating universities: http://www.ars.usda.gov/is/br/ccd/ccdprogressreport2010.pdf.

During FYs 2009 and 2010, the Economic Research Service participated in the USDA pollinators committee and cooperative research agreements with North Carolina State University and Montana State University to address the economic effects on honey and pollination markets. No research occurred during FY 2011, and none is planned for FY 2012 or FY 2013.

The National Institute of Food and Agriculture supports research on Colony Collapse Disorder. Recipients of funding for CCD research include land-grant institutions and public and private universities and colleges. Funding will support strategies in response to CCD. Some of the strategies may include surveying and collecting data; analyzing samples to determine the prevalence of various pests and pathogens, exposure to pesticides, or other unusual factors; conducting controlled experiments to analyze the potential causes of CCD; and developing new methods to improve the general health of bees to reduce their susceptibility to CCD and other disorders. Recipient data for 2009 and 2010 is provided for the record for Colony Collapse Disorder. FY 2011 data is not yet available.

NIFA COLONY COLLAPSE DISORDER Recipients

FY 2009

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIVERSITY OF GEORGIA
Sustainable Solutions to Problems Affecting Health of Managed Bees

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIVERSITY OF ILLINOIS
Molecular survey and strain identification of Nosema bombi in museum collections of bumble bees: testing the Nosema invasion hypothesis

PROJ TYPE: AFRI COMPETITIVE GRANT
RUTGERS UNIVERSITY
Strategies For Promoting Reliable Crop Pollination By Native Bees

PROJ TYPE: AFRI COMPETITIVE GRANT
TEXAS A&M UNIV
Honey bee primer pheromone regulation of colony-level reproduction

PROJ TYPE: ANIMAL HEALTH
MONTANA STATE UNIVERSITY

Nosema ceranae infections and honey bee health

PROJ TYPE: EVANS-ALLEN
KENTUCKY STATE UNIVERSITY
Control of Nosema apis and Nosema ceranae in honey bee colonies

PROJ TYPE: HATCH
UNIVERSITY OF ARKANSAS
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Alternative Approaches to Control Varroa destructor (Formerly, Varroa jacobsoni), An Ectoparasitic Mite of the Honey Bee

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
Swarming, mating, and defensive behavior of Africanized and European honey bees.

PROJ TYPE: HATCH
CONNECTICUT AGRICULTURAL EXPERIMENT STATION
American foulbrood in Honeybees: Prevalence and geographic distribution of Paenibacillus larvae in Connecticut.

PROJ TYPE: HATCH
CONNECTICUT AGRICULTURAL EXPERIMENT STATION
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
CONNECTICUT AGRICULTURAL EXPERIMENT STATION
Insecticide Residues in Bee Hives and in Pollen -- A Potential Hazard to Pollinators

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
UNIVERSITY OF GEORGIA
Honey Bee IPM for Honey Production and Pollination

PROJ TYPE: HATCH
PURDUE UNIVERSITY
Genetic Analyses of the Behavior of Honey Bees

PROJ TYPE: HATCH
PURDUE UNIVERSITY
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
LOUISIANA STATE UNIVERSITY
Biology, Ecology, Behavior and Methods of Control of the Formosan Subterranean Termite

PROJ TYPE: HATCH
MICHIGAN STATE UNIV
Better Pest and Disease Management Through Studying Their Mode of Action and Effect on Honey Bees

PROJ TYPE: HATCH
MICHIGAN STATE UNIV
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
MICHIGAN STATE UNIV
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
UNIV OF MINNESOTA
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
MONTANA STATE UNIVERSITY
Effects of Nosema ceranae and fumagillin treatments on honeybee health

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Diversity and Pollination Biology of Native and Managed Bees in Apple Orchards in New York

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Evaluation of Small-Cell Combs for Control of Varroa Mites in New York Honey Bees

PROJ TYPE: HATCH
OHIO STATE UNIVERSITY
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
Molecular Bases for Selective Chemistry in Integrated Management of Arthropod Pests

PROJ TYPE: HATCH
CLEMSON UNIVERSITY
Integrated management strategies for honey bee pests and disease

PROJ TYPE: HATCH
CLEMSON UNIVERSITY
Sustainable solutions to problems affecting honey bee health

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
UNIV OF WISCONSIN
Exploring Symbiotic Associations Between Antibiotic- Producing Bacteria and Honey Bees

PROJ TYPE: HATCH
UNIV OF WISCONSIN
Conservation of Ecosystem Services in a Biofuel Agricultural Landscape

PROJ TYPE: NRI COMPETITIVE GRANT
UNIVERSITY OF GEORGIA
Sustainable solutions to problems affecting health of managed bees

PROJ TYPE: NRI COMPETITIVE GRANT
UNIVERSITY OF ILLINOIS
Toxicogenomics of Apis mellifera

PROJ TYPE: NRI COMPETITIVE GRANT
PURDUE UNIVERSITY
Analysis of genes and gene regions affecting agronomically important honey bee behaviors.

PROJ TYPE: NRI COMPETITIVE GRANT
CITY COLLEGE OF NEW YORK (CCNY)
Immune competence in Drosophila: Effects of secondary infections and pesticides

PROJ TYPE: NRI COMPETITIVE GRANT
NORTH CAROLINA STATE UNIV
Modulation of social interactions by disease in honey bees

PROJ TYPE: NRI COMPETITIVE GRANT
NORTH CAROLINA STATE UNIV
Assessing the mating health of commercial honey bee queens

PROJ TYPE: NRI COMPETITIVE GRANT
PENNSYLVANIA STATE UNIVERSITY
Modulation of social interactions by disease in honey bees.

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF ILLINOIS
Addressing Colony Collapse Disorder: Initiation of a National Response

PROJ TYPE: OTHER GRANTS
PENNSYLVANIA STATE UNIVERSITY
Colony Collapse Disorder - Determination of Role of Pathogens in Unique-Colony Losses of Honey Bees and Funding of Workshop on CCD

PROJ TYPE: OTHER GRANTS
PENNSYLVANIA STATE UNIVERSITY
Unraveling Impacts on Honey Bee Health of Agricultural and In-Hive Pesticides

PROJ TYPE: OTHER GRANTS
PENNSYLVANIA STATE UNIVERSITY

Impacts on Honey Bees and Honey Bee Diseases from in-Hive Miticide Use

PROJ TYPE: OTHER GRANTS
CLEMSON UNIVERSITY
Assessment of Current Miticide Use on Honey Bee Longetivity and Colony Health

PROJ TYPE: SMALL BUSINESS GRANT
S.A.F.E. RESEARCH AND DEVELOPMENT LLC
Controlling Varroa Mites in the Honey Bee, Apis Mellifera

PROJ TYPE: SMALL BUSINESS GRANT
AGPOLLEN, L.L.C.
Development of Nest Attractant for the Blue Orchard Bee

PROJ TYPE: SMALL BUSINESS GRANT
BEE ALERT TECHNOLOGY, INC.
Sonographic Analysis for Rapid Detection of Varroa Mites and other Pathologies without opening the Beehive

PROJ TYPE: SPECIAL GRANT
UNIV OF MASSACHUSETTS
Development and Implementation of Diagnostic Tools to Assess Bee Colony Health

FY 2010

PROJ TYPE: 3D GRANT
UNIV OF MARYLAND
Sustainable Management of the Small Hive Beetle (Aethina tumida), an Emerging Pest of Honey Bees

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIVERSITY OF ILLINOIS
Molecular survey and strain identification of Nosema bombi in museum collections of bumble bees: testing the Nosema invasion hypothesis

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIV OF MINNESOTA
Influence of mid-continent land-use trends on floral diversity and pollen availability to sustain bee health, diversity and ecosystem services

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIVERSITY OF NORTH CAROLINA
FASE: Genetic Characterization of Absolute Varroa Mite Resistance in Honey Bees

PROJ TYPE: AFRI COMPETITIVE GRANT
PENNSYLVANIA STATE UNIVERSITY
Behavioral, Physiological and Molecular Effects of Multiple Factors Impacting Honey Bee Health

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIVERSITY OF PUERTO RICO
Informative SNP markers for a gentle Africanized bee population with mite biting behavior

PROJ TYPE: HATCH
UNIVERSITY OF ARKANSAS
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Assessing and enhancing the contributions of native bees to agricultural pollination

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Pollination Economics

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
Swarming, mating, and defensive behavior of Africanized and European honey bees.

PROJ TYPE: HATCH
CONNECTICUT AGRICULTURAL EXPERIMENT STATION
American foulbrood in Honeybees: Prevalence and geographic distribution of Paenibacillus larvae in Connecticut.

PROJ TYPE: HATCH
CONNECTICUT AGRICULTURAL EXPERIMENT STATION
Insecticide Residues in Bee Hives and in Pollen -- A Potential Hazard to Pollinators

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
UNIVERSITY OF GEORGIA
Honey Bee IPM for Honey Production and Pollination

PROJ TYPE: HATCH
UNIV OF HAWAII
Management decision systems for multiple-pest complexes on tropical fruit and nut crops

PROJ TYPE: HATCH
PURDUE UNIVERSITY
Genetic Analyses of the Behavior of Honey Bees

PROJ TYPE: HATCH
PURDUE UNIVERSITY
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
LOUISIANA STATE UNIVERSITY
Biology, Ecology, Behavior and Methods of Control of the Formosan Subterranean Termite

PROJ TYPE: HATCH
UNIVERSITY OF MAINE
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
UNIVERSITY OF MAINE
Management of the commercial bumble bee, bombus impatiens, for lowbush blueberry

PROJ TYPE: HATCH
UNIV OF MASSACHUSETTS
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
MICHIGAN STATE UNIV
Better Pest and Disease Management Through Studying Their Mode of Action and Effect on Honey Bees

PROJ TYPE: HATCH
MICHIGAN STATE UNIV
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
MICHIGAN STATE UNIV
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
UNIV OF MINNESOTA
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
MONTANA STATE UNIVERSITY
Effects of Nosema ceranae and fumagillin treatments on honeybee health

PROJ TYPE: HATCH
RUTGERS UNIVERSITY
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Diversity and Pollination Biology of Native and Managed Bees in Apple Orchards in New York

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Sustainable Solutions to Problems Affecting Honey Bee Health

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Evaluation of Small-Cell Combs for Control of Varroa Mites in New York Honey Bees

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Economic Issues in Agricultural Pollination

PROJ TYPE: HATCH
OREGON STATE UNIVERSITY
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
The Chemical Ecology of Interactions Among Plants, Insects, and Pathogens

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
Molecular Bases for Selective Chemistry in Integrated Management of Arthropod Pests

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
CLEMSON UNIVERSITY
Integrated management strategies for honey bee pests and disease

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Sustainable Solutions to Problems Affecting Bee Health

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Molecular Genetics of Honey Bee Subspecies and Selection and Breeding of New World Populations

PROJ TYPE: HATCH
UNIV OF WISCONSIN
Conservation of Ecosystem Services in a Biofuel Agricultural Landscape

PROJ TYPE: HATCH
UNIV OF WISCONSIN
Exploring Symbiotic Associations Between Antibiotic- Producing Bacteria and Honey Bees

PROJ TYPE: OTHER GRANTS
PENNSYLVANIA STATE UNIVERSITY
Determining the Roles and Limiting Factors Facing Native Pollinators in Assuring Quality Apple Production in Pennsylvania; a Model for the Mid-Atlantic Tree Fruit Industry

PROJ TYPE: SMALL BUSINESS GRANT
S.A.F.E. RESEARCH AND DEVELOPMENT LLC
Controlling Varroa Mites in the Honey Bee, Apis Mellifera

PROJ TYPE: SMALL BUSINESS GRANT
AGPOLLEN, L.L.C.

Development of a Nest Attractant for the Blue Orchard Bee

PROJ TYPE: SMALL BUSINESS GRANT
BEE POWER, LP
Selection and genomic characterization of honey bees resistant to viral pathogens

PROJ TYPE: SPECIAL GRANT
UNIV OF HAWAII
A Need for Honeybees: Safeguarding Colony Health Through Varroa Management

PROJ TYPE: SPECIAL GRANT
UNIV OF MARYLAND
Sustainable management of the small hive beetle (Aethina tumida), an emerging pest of honey bees

PROJ TYPE: SPECIAL GRANT
CLEMSON UNIVERSITY
Comparative trapping investigations of small hive beetles inside honey bee colonies

Asian Long-Horned Beetle

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to the Asian Long-Horned Beetle, including participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$1,497,000	$1,516,000	$1,512,000	$1,169,000	$1,169,000
NIFA	2,156,000	1,266,000	144,000	144,000	145,000
Total	3,653,000	2,782,000	1,656,000	1,313,000	1,314,000

In a large Federal, multi-State, and country (Canada and Italy) project, Agricultural Research Service (ARS) researchers have developed models to predict both when the Asian Longhorned Beetle (ALB) adults emerge from trees and the spread of the beetle. ARS researchers collaborated with the Canadian Forest Service and the Canadian Food Inspection Agency to develop the comprehensive field guide "Detecting Signs and Symptoms of Asian Longhorned Beetle Injury: A Training Guide" for survey and early detection of infested trees and adult beetles. Together with training, use of the guide has enhanced early detection of new introductions in North America and Europe, prevented the spread of existing infestations, and standardized survey guidelines and protocols worldwide. Several hundred guides were distributed by ARS in the first 3 months in 2012. ARS researchers also identified a tree species that is highly attractive to adult beetles and, through collaboration, is developing this "sentinel tree" as an artificial attractant using volatiles released by the tree. Collectively, these accomplishments are helping the Animal and Plant Health Inspection Service (APHIS) in early season detection of ALB and in guiding rapid early season treatment responses to limit the spread of the beetle. Looking to the future, ARS researchers have identified several biological control agents native to the United States that have shown promise in biological control of ALB.

In 2013, ARS research will focus on refining models that predict the spread of ALB, targeting the increasingly diverse and varied areas found infested by ALB (e.g., forests in the Worcester, Massachusetts infestation; rural areas in the Ohio infestation). ARS research will also refine models that predict ALB adult emergence from trees, thus facilitating predictions about when the beetle will reach peak levels. Collectively, these models will help APHIS increase the effectiveness of existing and new survey and control strategies, and significantly reduce the cost of eradication. ARS will also focus on (1) expanding the effect of the sentinel trees and artificial lure, (2) developing the attract-and-kill strategy, and (3) finding and using additional biological control agents for safe beetle suppression.

The National Institute of Food and Agriculture supports research on ALB. Recipients of funding for ALB include land-grant institutions and public and private universities and colleges. Funding will support activities that include detection and preventive measures to eradicate the damaged caused by ALB. Recipient data for 2009 and 2010 is provided for the record for ALB. 2011 data is not yet available.

NIFA ASIAN LONGHORNED BEETLE Recipients

FY 2009

UNIVERSITY OF MAINE COOPERATIVE EXTENSION

Integrated Pest Management Office UMaine

UNIVERSITY OF CALIFORNIA

Exploiting Pheromones And Related Chemicals For Detection, Monitoring, And Control Of Insect Pests

PENNSYLVANIA STATE UNIVERSITY

Biology and IPM Tactics for Control of Woody Ornamental and Greenhouse Pests

UNIVERSITY OF VERMONT

Biological Control of the Asian Longhorned Beetle: Drawing From Indigenous Sources

PENNSYLVANIA STATE UNIVERSITY

Multitrophic interactions in a xylophagous beetle gut microcosm

KANSAS STATE UNIV

Great Plains Diagnostic Network (GPDN)

PENNSYLVANIA STATE UNIVERSITY

Radio frequency technology as an alternative treatment to methyl bromide fumigation for wood in world trade

PENNSYLVANIA STATE UNIVERSITY

Microwave Technology Approval and Phytosanitary Treatment Complian

FY 2010

PURDUE UNIVERSITY

Identifying sentinels for delimiting invasive borers in urban forests

UNIVERSITY OF CALIFORNIA

Exploiting Pheromones And Related Chemicals For Detection, Monitoring, And Control Of Insect Pests

PURDUE UNIVERSITY

Safeguarding domestic landscapes from exotic and established pests through the adoption of best management practices in production and urban landscapes

PENNSYLVANIA STATE UNIVERSITY

Multritrophic Interactions Involving Invasive Insect Pests of Trees

PENNSYLVANIA STATE UNIVERSITY

Benefits and Costs of Natural Resources Policies Affecting Public And Private Lands

UNIVERSITY OF VERMONT

Biological Control of the Asian Longhorned Beetle: Drawing From Indigenous Sources

CONNECTICUT AGRICULTURAL EXPERIMENT STATION

Host Finding Strategies, Mating Behavior and the Natural Enemies of wood-boring beetles in the Families Buprestidae and Cerambycidae

KANSAS STATE UNIV

Great Plains Diagnostic Network (GPDN)

PURDUE UNIVERSITY

Identifying sentinels for delimiting invasive borers in urban forests

Food Defense and Homeland Security

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to food defense and homeland security, including participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimated	FY 2013 Budget
ARS	$35,454,000	$39,170,000	$35,715,000	$35,721,000	$35,721,000
ERS	983,000	983,000	983,000	934,000	938,670
NIFA	43,700,000	44,848,000	40,638,000	40,647,000	40,488,000
Total	80,137,000	85,001,000	77,336,000	77,302,000	77,147,670

The USDA food defense and homeland security research activities are linked to Homeland Security Presidential Directive-9 (HSPD-9) and the President's National Strategy for Countering Biological Threats. ARS has unique and critical resources dedicated to ensuring that agricultural production is secure, sustainable, and efficient with the aim of providing American consumers with a healthy, safe, and affordable food supply. Many of these responsibilities involve protecting people, crops, livestock, poultry, aquaculture, and other living resources from pests and pathogens with the potential to cause severe economic consequences and/or public health incidents. USDA research and extension programs activities specifically target gaps in our food defense strategy by providing the scientific information and tools needed to mitigate the effect of incursions on our food supply.

In FY 2013, the Agricultural Research Service (ARS) will continue to implement strong national research programs for food defense and homeland security. ARS will conduct research to minimize the risk to American agriculture of diseases, contamination, and/or willful destruction of crops and animals to ensure that the safety of the food supply is not compromised. ARS conducts food defense and homeland security research in collaboration with the Animal and Plant Health Inspection Service, Food Safety and Inspection Service, Foreign Agricultural Service, Food and Drug Administration, Department of Homeland Security, Department of Defense, State Department, Environmental Protection Agency, Human and Health Services, and the Department of Interior.

The Economic Research Service (ERS) conducted research during FYs 2009 through 2012 to support the needs set forth under Homeland Security Presidential Directive-9 (HSPD-9). Research has developed and refined the capacity to conduct economic analyses of plant and animal disease outbreaks. ERS projects assessed the value of available data containing geographic information that could be used to improve geospatial analysis of homeland security issues related to food and agriculture industries.

These research activities will continue into FY 2013. ERS' planned research in 2013 will include an assessment of the resilience of local livestock producers to animal disease outbreaks, sensitivity analysis of domestic and international markets to disease outbreaks supported by model development, and synthesis analysis of response strategy effectiveness in the event of a foot-and-mouth disease outbreak. In addition, ERS is contributing expertise as subject matter experts to the Department of Homeland Security, Science and Technology Directorate, for the Agroterrorism Risk Assessment.

The National Institute of Food and Agriculture supports research on Food and Agriculture Defense Initiative and Homeland Security. Examples of the types of recipients of funding for Food and Agriculture Defense Initiative and Homeland Security include land-grant institutions and public and private universities and colleges. The network will be used to increase the ability to protect the Nation from disease threats by identifying, containing, and minimizing disease threats. Funding will also be used to support the Extension Disaster Education Network, and maintain and enhance pest risk management tools for Asian soybean rust and other pathogens of legumes. Below is the award information for the record. Other programs such as Smith-Lever 3(b)&(c), 1890 Extension and AFRI contribute to this initiative with recipients from land grant institution and public sector; data for these recipients is not available.

Recipient	Fiscal Year 2009	Fiscal Year 2010	Title
Cornell University	984,410	830,000	Northeast Plant Diagnostic Network
Michigan State University	830,350	942,780	North Central Plant Diagnostic Network,
Purdue University	248,250	250,000	National Database/National Network Diagnostic Center
University of California	830,350	830,000	Western Regional Center in the National Diagnostic Network
Murray State University	50,000	50,000	National Animal Health Laboratory Network
University of Georgia	298,000	298,000	Georgia National Animal Health Laboratory Network Program
Wyoming State Veterinary Laboratory	50,000	50,000	National Animal Health Laboratory Network
Utah State University	50,000	50,000	National Animal Health Laboratory Network
University of Florida	830,350	830,000	The Southern Plant Diagnostic Network
Kansas State University	830,350	830,000	Great Plains Diagnostic Network
AZ Board of Regents, Univ., of Arizona	298,000	298,000	National Animal Health Laboratory Network
State of Tennessee, Dept. of Agriculture	50,000	50,000	National Animal Health Laboratory Network
University of Nebraska	50,000	50,000	Further Integration of the Nebraska Vet., Diagnostic Ctr., into the Nat'l Animal Health Laboratory Network,
University of California	308,000	298,000	National Animal Health Laboratory Network
Washington State University	308,000	308,000	Washington Animal Health Disease Diagnostic Laboratory
Cornell University	298,000	298,000	National Animal Health Laboratory Network
University of Minnesota	50,000	50,000	National Animal Health Laboratory Network
University of Wisconsin-Madison	298,000	298,000	National Animal Health Laboratory Network
Iowa State University of Science/Tech.	298,000	298,000	National Animal Health Laboratory Network
Colorado State University	298,000	298,000	National Animal Health Laboratory Network
Purdue University	50,000	50,000	National Animal Health Laboratory Network
Purdue University	485,000	499,000	EDEN Homeland Security Initiative
Oregon State University	50,000	50,000	National Animal Health Laboratory Network
Mississippi State University	50,000	50,000	National Animal Health Laboratory Network
Ohio Department of Agriculture	50,000	50,000	ODA NAHLN Supplemental Agreement for IT and Equipment Support
Louisiana State University	298,000	298,000	
Kansas State University	50,000	50,000	National Animal Health Laboratory Network
South Dakota State University	50,000	50,000	National Animal Health Laboratory Network
Florida Dept. of Agr.,/Consumer Service	298,000	298,000	Homeland Security-Agricultural
NC Department of Agr.,/Consumer Services	298,000	298,000	National Animal Health Laboratory Network
New Jersey Department of Agriculture	50,000	50,000	National Animal Health Laboratory Network
Texas Veterinary Medical Diagnostic Lab.	298,000	298,000	National Animal Health Laboratory Network
New Mexico Department of Agriculture	50,000	50,000	New Mexico ALIRT Program
Michigan State University	50,000	50,000	National Animal Health Laboratory Network
Pennsylvania Department of Agriculture	50,000	50,000	National Animal Health Laboratory Network
Total	9,435,060	9,397,780	

Antibiotic Resistance

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA research and extension activities related to antibiotic resistance, including participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describes USDA's plan for fiscal year 2013.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	**FY 2010 Actual**	**FY 2011 Actual**	**FY 2012 Estimated**	**FY 2013 Budget**
ARS	$6,482,000	$6,594,000	$8,998,000	$8,998,000	$10,185,000
ERS	92,078	93,958	93,958	82,876	83,290
NIFA	752,000	1,981,000	844,000	844,000	844,000
Total	7,326,078	8,668,958	9,935,958	9,924,876	11,112,290

The Agricultural Research Service (ARS) conducts antimicrobial resistance research and provides oversight of the animal sampling arm of the National Antimicrobial Resistance Monitoring System (NARMS), which is funded and managed by the Food and Drug Administration (FDA). In response to an FDA request and the need to improve the animal sampling plan, ARS implemented a pilot project that involves universities and several ARS centers to collect samples on farms and at slaughter houses for FDA to perform in-house antimicrobial resistance testing. This pilot is being evaluated for the data usefulness and the scientific and budgetary implications for future implementation. ARS is a founding member and represents USDA on the *Interagency Task Force on Antimicrobial Resistance*. This committee developed the Public Health Action Plan to Combat Antimicrobial Resistance. Annually, the Task Force compiles information on priorities and actions for each agency, and publishes a progress report. USDA is responsible for action items involving research activities on alternatives to antibiotics in the action plan. The final 2011 document, which also includes milestones, is posted on the Web at this address: http://www.cdc.gov/drugresistance/index.html.

Research on alternatives to antibiotics is an important effort by ARS and involves several strategies. For example, ARS is evaluating and developing vaccines for *E .coli* in cattle and *Salmonella* spp. in swine and poultry as well as evaluating the role of genetics and immune modulators. ARS is also developing recombinant antimicrobial enzymes that are highly refractory to resistance development through simultaneously targeting the pathogen's cell wall at three unique sites. These novel antimicrobials have so far shown to be 100 percent effective against *Staphylococcus* bacteria and have a significant advantage over conventional broad-range antibiotics in that most resistance mechanisms are eliminated.

Another example of ongoing ARS research to develop alternatives to antibiotics includes the isolation and characterization of a novel lytic peptide that has direct killing activity against multiple intestinal protozoa in poultry. These therapies would decrease the need for antibiotics. ARS is also developing and evaluating novel products such as prebiotics and probiotics, cytokines, bacteriocins and bacteriolysins, and Generally Recognized as Safe ingredients in food animals as alternative treatments for the reduction of food-borne disease and as alternatives to antibiotics. Finally, ARS is identifying and evaluating intervention strategies during processing and post-harvesting for minimizing microbial contamination of food and to decrease antimicrobial resistance. This includes evaluating carcass rinses in poultry and carcass and hide rinses in cattle, and understanding the role of biofilms in protecting food-borne pathogens in the processing plant. In 2013, ARS plans to continue to enhance the research on alternatives to antibiotics by evaluating the role of alternatives (both at the preharvest/on-farm and postharvest level) and the role of management practices and the environment on the prevalence of antimicrobial resistance and emerging pathogens in food animals.

During FYs 2009 through 2011, ERS examined the effect on farm productivity of feeding antibiotics at subtherapeutic levels, and whether the effects on productivity gains from restricting antibiotic use can be offset by other production practices. This research examined the extent to which antibiotics are fed at subtherapeutic levels in U.S. hog production, by stage of production, and how this has changed between 2004 and 2009. Published ERS research also assesses the effects of antibiotic use on production efficiency and costs, and evaluates the alternatives to antibiotic use in broilers.

During FY 2013, the Economic Research Service (ERS) will continue to examine the effect on farm productivity of feeding antibiotics at subtherapeutic levels, and whether the effects on productivity gains from restricting antibiotic use can be offset by other production practices. This research will rely upon updated data for hog production in 2009 and broiler production in 2011, collected as part of USDA's Agricultural Resource Management Survey. The research findings will support USDA decision making on policies and programs to address the issue of antimicrobial resistance in animal agriculture by identifying the economic effects of possible restrictions on subtherapeutic antimicrobial use, and by examining alternatives to subtherapeutic antimicrobial use in on-farm production practices.

The National Institute of Food and Agriculture (NIFA) supports research on antibiotic resistance. NIFA supported work includes studies of antimicrobial usage in dairy, beef, swine, and/or poultry production systems. Topics include prevalence and control of food-borne pathogens in meat and meat products, and livestock management practices that minimize the use of antimicrobials. Examples of the types of recipients of funding for antibiotic resistance are land-grant institutions, public and private universities and colleges and federal laboratories. Recipient data for 2009 and 2010 is provided for the record for Antibiotic Resistance. 2011 data is not yet available.

NIFA ANTIBIOTIC Recipients

FY 2009

PROJ TYPE: AFRI COMPETITIVE GRANT

UNIV OF CONNECTICUT

Investigating the potential of natural antimicrobials for controlling bovine mastitis

PROJ TYPE: ANIMAL HEALTH

UNIVERSITY OF ARKANSAS

Investigation of animal response to probiotics.

PROJ TYPE: ANIMAL HEALTH

UNIV OF CALIFORNIA (VET-MED)

Host:Pathogen Interactions Of Zoonotic Pathogens In Disease And Persistence In The Host And Environment

PROJ TYPE: ANIMAL HEALTH

UNIVERSITY OF GEORGIA

Poultry Disease Research

PROJ TYPE: ANIMAL HEALTH

IOWA STATE UNIVERSITY

Identification Of Rumen Protozoa Receptors That Provide A Conduit To A Refuge For Bacterial Pathogens

PROJ TYPE: ANIMAL HEALTH

NORTH DAKOTA STATE UNIV

Isolation and Characterization of Escherichia coli from Cattle in North Dakota

PROJ TYPE: ANIMAL HEALTH

NORTH DAKOTA STATE UNIV

Animal Disease: Mechanisms of Pathogenesis

PROJ TYPE: ANIMAL HEALTH

OKLAHOMA STATE UNIVERSITY

Functional and Structural Analysis of Novel Antimicrobial Host Defense Peptides in Food Animals

PROJ TYPE: ANIMAL HEALTH

UNIV OF PENNSYLVANIA

A new probiotic for E. coli infections of nursery pigs

PROJ TYPE: ANIMAL HEALTH

WASHINGTON STATE UNIVERSITY

Characterization of a novel contact-dependent inhibitory mechanism in calf adapted Escherichia coli

PROJ TYPE: EVANS-ALLEN

UNIV OF MARYLAND EASTERN SHORE

Molecular Characterization and Predictive Modeling of Salmonella spp. Recovered from Processed Poultry

PROJ TYPE: HATCH

AUBURN UNIVERSITY

Evaluation of Mechanically Tenderized Beef and the Implications for Industry Changes

PROJ TYPE: HATCH

UNIVERSITY OF ARKANSAS

Control of Food-Borne Pathogens in Pre- and Post-Harvest Environments

PROJ TYPE: HATCH

UNIVERSITY OF GEORGIA

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: HATCH

IOWA STATE UNIVERSITY

Control of Food-Borne Pathogens in Pre- and Post-Harvest Environments

PROJ TYPE: HATCH

KANSAS STATE UNIV

Pre-harvest Food Safety and Food Animal Productions

PROJ TYPE: HATCH

KANSAS STATE UNIV

Enteric Diseases of Swine and Cattle: Prevention, Control and Food Safety

PROJ TYPE: HATCH

LOUISIANA STATE UNIVERSITY

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: HATCH

LOUISIANA STATE UNIVERSITY

Rapid Detection, Molecular Characterization, and Antimicrobial Resistance Of Foodborne Pathogens

PROJ TYPE: HATCH

UNIV OF MASSACHUSETTS

Gamma Delta TCR Usage In Ruminant Lymphocytes

PROJ TYPE: HATCH

MICHIGAN STATE UNIV

Genetic Basis for Campylobacter jejuni Induced Pathotypes in the Host

PROJ TYPE: HATCH

MICHIGAN STATE UNIV

Transcriptome and Proteome Factors Regulating Neutrophil Function in Periparturient Dairy Cows.

PROJ TYPE: HATCH

MISSISSIPPI STATE UNIV

Control of Food-Borne Pathogens in Pre- and Post-Harvest Environments

PROJ TYPE: HATCH

UNIVERSITY OF NEBRASKA

Mannheimia haemolytica: Characterization of isolates associated with fatal bronchopneumonia of cattle

PROJ TYPE: HATCH

NORTH CAROLINA STATE UNIV

Genomic features, markers and adaptations of major Listeria epidemic clones and of Campylobacter from food animals

PROJ TYPE: HATCH

NORTH CAROLINA STATE UNIV

Analysis of the Molecular Mechanism of the Ribosome during Protein Synthesis

PROJ TYPE: HATCH

NORTH DAKOTA STATE UNIV

Enteric Diseases of Swine and Cattle: Prevention, Control and Food Safety

PROJ TYPE: HATCH

OHIO STATE UNIVERSITY

Control of Food-Borne Pathogens in Pre- and Post-Harvest Environments

PROJ TYPE: HATCH

OREGON STATE UNIVERSITY

Animal Health and Disease

PROJ TYPE: HATCH

CLEMSON UNIVERSITY

Control of food-borne pathogens in pre- and post-harvest environments

PROJ TYPE: HATCH

UNIVERSITY OF TENNESSEE

Characterization of Antibiotic Resistance in Bacteria Associated With Livestock

PROJ TYPE: HATCH

UNIVERSITY OF TENNESSEE

Molecular Mechanisms of Pathogenesis and Antibiotic Resistance in Campylobacter Jejuni

PROJ TYPE: HATCH

UNIVERSITY OF TENNESSEE

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: HATCH

TEXAS A&M UNIV

THE LYSIS OF BACTERIA BY BATERIOPHAGES: FUNDAMENTAL MOLECULAR BIOLOGY WITH IMPACT IN HUMAN AND ANIMAL HEALTH AND AGRICULTURE

PROJ TYPE: HATCH

VIRGINIA POLYTECHNIC INSTITUTE

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: HATCH

VIRGINIA POLYTECHNIC INSTITUTE

Non-antibiotic Approaches to Gut Integrity and Immune Responses to Eimeria in Commercial Broilers

PROJ TYPE: HATCH

VIRGINIA POLYTECHNIC INSTITUTE

Regulation of Immune and Coagulatory Responses by Staphylococcus aureus

PROJ TYPE: HATCH

UNIV OF WISCONSIN

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: NRI COMPETITIVE GRANT

UNIVERSITY OF ARIZONA

Campylobacter Jejuni through the Food Chain: from Range through Processing

PROJ TYPE: NRI COMPETITIVE GRANT

IOWA STATE UNIVERSITY

Emergence and fitness mechanisms of fluoroquinolone resistant Campylobacter in poultry

PROJ TYPE: NRI COMPETITIVE GRANT

UNIV OF MASSACHUSETTS

Bovine Gamma-Delta T Cell Functions as Determined by WC1 Isoforms

PROJ TYPE: NRI COMPETITIVE GRANT

UNIVERSITY OF MICHIGAN

Genetic Analysis of Chicken Colonization by Campylobacter Jejuni

PROJ TYPE: NRI COMPETITIVE GRANT

MONTANA STATE UNIVERSITY

Expression and function of Bovine CCL28

PROJ TYPE: NRI COMPETITIVE GRANT

OHIO STATE UNIVERSITY - VET MED

An Economic Approach to Optimal Dry Cow Therapy Strategies

PROJ TYPE: NRI COMPETITIVE GRANT

TEXAS A&M UNIV

Novel pre-harvest interventions to protect antimicrobials of critical importance in human and veterinary medicine

PROJ TYPE: OTHER GRANTS

UNIVERSITY OF ARKANSAS

AN INTEGRATED SYSTEM APPROACH TO REDUCE SALMONELLA IN ORGANIC AND ALL NATURAL POULTRY

PROJ TYPE: OTHER GRANTS

IOWA STATE UNIVERSITY

Incidence and Ecology of Macrolide-Resistant Campylobacter in Chickens and Turkeys

PROJ TYPE: OTHER GRANTS

CORNELL UNIVERSITY

The Transitioning Dairy: Identifying and Addressing Challenges and Opportunites in Milk Quality and Safety

PROJ TYPE: OTHER GRANTS

OHIO STATE UNIVERSITY

Conference on Food Safety and Public Health: Minimizing Antibiotic Resistance Transmission through the Food Chain

PROJ TYPE: OTHER GRANTS

OHIO STATE UNIVERSITY - VET MED

Agricultural Ceftiofur Use and the Dissemination of Third Generation Cephalosporin Resistance Genetics of Public Health Concern

PROJ TYPE: OTHER GRANTS

WASHINGTON STATE UNIVERSITY

Reducing the Use of Antibiotics and the Incidence of Antibiotic Resistance on Calf Ranches

PROJ TYPE: SMALL BUSINESS GRANT

LYNNTECH, INC

Uniform Strategy for Decontamination of Stored Food

PROJ TYPE: SPECIAL GRANT

IOWA STATE UNIVERSITY

Animal Science Food Safety Consortium

PROJ TYPE: SPECIAL GRANT

KANSAS STATE UNIV

Ecology of Escherichia coli O157:H7 in Beef Cow-Calf Operations from Ranch to Feedlot

PROJ TYPE: SPECIAL GRANT

KANSAS STATE UNIV

Animal Science Food Safety Consortium - Kansas State University

FY 2010

PROJ TYPE: ANIMAL HEALTH

UNIVERSITY OF ARKANSAS

Investigation of animal response to probiotics.

PROJ TYPE: ANIMAL HEALTH

UNIV OF CALIFORNIA (VET-MED)

Host:Pathogen Interactions Of Zoonotic Pathogens In Disease And Persistence In The Host And Environment

PROJ TYPE: ANIMAL HEALTH

UNIV OF MINNESOTA

Analysis of Complex Microbial Datasets in Animal Agriculture

PROJ TYPE: ANIMAL HEALTH

UNIVERSITY OF MISSOURI

Development of Genetic Manipulation Protocols for Mycoplasma hyopneumoniae Clade of Animal Pathogens

PROJ TYPE: ANIMAL HEALTH

NORTH DAKOTA STATE UNIV

Isolation and Characterization of Escherichia coli from Cattle in North Dakota

PROJ TYPE: ANIMAL HEALTH

NORTH DAKOTA STATE UNIV

Animal Disease: Mechanisms of Pathogenesis

PROJ TYPE: ANIMAL HEALTH

OKLAHOMA STATE UNIVERSITY

Functional and Structural Analysis of Novel Antimicrobial Host Defense Peptides in Food Animals

PROJ TYPE: ANIMAL HEALTH

WASHINGTON STATE UNIVERSITY

Characterization of a novel contact-dependent inhibitory mechanism in calf adapted Escherichia coli

PROJ TYPE: ANIMAL HEALTH

WASHINGTON STATE UNIVERSITY

INVESTIGATION OF FOOD ANIMAL DISEASE PROBLEMS IN THE STATE OF WASHINGTON

PROJ TYPE: EVANS-ALLEN

UNIV OF MARYLAND EASTERN SHORE

Molecular Characterization and Predictive Modeling of Salmonella spp. Recovered from Processed Poultry

PROJ TYPE: EVANS-ALLEN

NORTH CAROLINA A&T STATE UNIV

Promoting Properties of Mushroom-Forming Fungi in Poultry

PROJ TYPE: HATCH

UNIVERSITY OF ARKANSAS

Control of Food-Borne Pathogens in Pre- and Post-Harvest Environments

PROJ TYPE: HATCH

UNIVERSITY OF GEORGIA

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: HATCH

KANSAS STATE UNIV

Enteric Diseases of Swine and Cattle: Prevention, Control and Food Safety

PROJ TYPE: HATCH

UNIVERSITY OF KENTUCKY

Enteric Diseases of Swine and Cattle: Prevention, Control and Food Safety

PROJ TYPE: HATCH

LOUISIANA STATE UNIVERSITY

Rapid Detection, Molecular Characterization, and Antimicrobial Resistance Of Foodborne Pathogens

PROJ TYPE: HATCH

UNIV OF MASSACHUSETTS

Gamma Delta TCR Usage In Ruminant Lymphocytes

PROJ TYPE: HATCH

MICHIGAN STATE UNIV

Genetic Basis for Campylobacter jejuni Induced Pathotypes in the Host

PROJ TYPE: HATCH

MICHIGAN STATE UNIV

Transcriptome and Proteome Factors Regulating Neutrophil Function in Periparturient Dairy Cows.

PROJ TYPE: HATCH

UNIV OF MINNESOTA

Enteric diseases of swine an cattle: prevention, control and food safety

PROJ TYPE: HATCH

MISSISSIPPI STATE UNIV

Control of Food-Borne Pathogens in Pre- and Post-Harvest Environments

PROJ TYPE: HATCH

UNIVERSITY OF NEBRASKA

Mannheimia haemolytica: Characterization of isolates associated with fatal bronchopneumonia of cattle

PROJ TYPE: HATCH

CORNELL UNIVERSITY

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: HATCH

NORTH CAROLINA STATE UNIV

Genomic features, markers and adaptations of major Listeria epidemic clones and of Campylobacter from food animals

PROJ TYPE: HATCH

NORTH CAROLINA STATE UNIV

Flies impacting livestock, poultry and food safety

PROJ TYPE: HATCH

NORTH CAROLINA STATE UNIV

Analysis of the Molecular Mechanism of the Ribosome during Protein Synthesis

PROJ TYPE: HATCH

NORTH CAROLINA STATE UNIV

Evaluation of Pre- and Post-Production Strategies for Inhibiting Foodborne Bacterial Pathogens Associated with Poultry

PROJ TYPE: HATCH

NORTH DAKOTA STATE UNIV

Enteric Diseases of Swine and Cattle: Prevention, Control and Food Safety

PROJ TYPE: HATCH

OHIO STATE UNIVERSITY

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: HATCH

OREGON STATE UNIVERSITY

Animal Health and Disease

PROJ TYPE: HATCH

CLEMSON UNIVERSITY

Control of food-borne pathogens in pre- and post-harvest environments

PROJ TYPE: HATCH

UNIVERSITY OF TENNESSEE

Molecular Mechanisms of Pathogenesis and Antibiotic Resistance in Campylobacter Jejuni

PROJ TYPE: HATCH

UNIVERSITY OF TENNESSEE

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: HATCH

UNIVERSITY OF TENNESSEE

Characterization of Antibiotic Resistance in Bacteria Associated With Livestock

PROJ TYPE: HATCH

TEXAS A&M UNIV

THE LYSIS OF BACTERIA BY BATERIOPHAGES: FUNDAMENTAL MOLECULAR BIOLOGY WITH IMPACT IN HUMAN AND ANIMAL HEALTH AND AGRICULTURE

PROJ TYPE: HATCH

TEXAS A&M UNIV

Utilizing vaccines as opposed to traditional methods for control of coccidiosis and necrotic enteritis and improvment in performance and health status of poultry

PROJ TYPE: HATCH

VIRGINIA POLYTECHNIC INSTITUTE

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: HATCH

VIRGINIA POLYTECHNIC INSTITUTE

Non-antibiotic Approaches to Gut Integrity and Immune Responses to Eimeria in Commercial Broilers

PROJ TYPE: HATCH

VIRGINIA POLYTECHNIC INSTITUTE

Regulation of Immune and Coagulatory Responses by Staphylococcus aureus

PROJ TYPE: HATCH

UNIV OF WISCONSIN

Mastitis Resistance to Enhance Dairy Food Safety

PROJ TYPE: OTHER GRANTS

WASHINGTON STATE UNIVERSITY

Minimizing antibiotic resistance transmission: the dairy farm as a model system

IR-4 Funding

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA activities related to IR-4, including participating agencies, funding, outside financial assistance provided, the number of registrations completed, and any backlog of registrations, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: In FY 2009, Agricultural Research Service (ARS) and university scientists working with the IR-4 program analyzed hundreds of pesticide/crop combinations and generated data for use for 105 crops and 52 pesticides. These data are being used by registrants and the Environmental Protection Agency (EPA) to expand pesticide labels for use by specialty crops growers. As a result of this effort, U.S. consumers enjoy a ready supply of safe, affordable, nutritious fruits and vegetables.

In FY 2010, ARS scientists established 137 pesticide/crop combinations at field locations in seven states (Arizona, California, Georgia, Ohio, South Carolina, Texas, and Washington). ARS scientists analyzed 163 pesticide/crop combinations for pesticide residue tolerances. ARS contributed data for pesticide residue tolerances on 26 specialty crops and 15 pesticides that can be used by registrants to label these as available to specialty crop growers. Data generated by ARS and university scientists are used by staff at IR-4 Headquarters to develop the data packages that are submitted to EPA.

In FY 2011, ARS researchers established 91 pesticide/food crop combinations in the field for treatment with pesticides and analyzed 52 pesticide/crop combinations in the laboratory for pesticide residues on treated crops. ARS researchers along with University of Maryland cooperators established 183 pesticide/crop combinations in the field to treat ornamental plants with pesticides and evaluate them for crop safety. A select number of these combinations were also evaluated to see how well the pesticide performed against the target pest.

ARS will continue all efforts underway in FY 2012 including 96 pesticide trials on crops (one trial = one pesticide applied to one crop), 157 pesticide trials on ornamentals, and 110 residue trials. Residue analysis laboratories in ARS accept crops samples for analysis from both State and ARS field sites that participate in the IR-4 program.

In FY 2013, ARS will continue to conduct research to facilitate registrations of pest management products for specialty food crops and minor uses on major crops, as well as develop efficacy and phytotoxicity data to increase the number of ornamental crops or pests on pesticide labels, with emphasis on reduced risk chemicals.

Funding for ARS research activities related to IR-4 is as follows: FY 2009, $3,915,000; FY 2010, $3,979,000; FY 2011, $3,971,000; FY 2012, $3,789,000; and FY 2013, $3,789,000 (estimated).

In FY 2009, the National Institute of Food and Agriculture (NIFA) provided $12.18 million in competitive grant funding to the IR-4 Project. Other contributions include State agricultural experiment stations that provided direct funding along with approximately $10 million in in-kind support through hosting IR-4 Field Centers, analytical laboratories and management offices as well as research and extension scientist participation.

ARS provided funding of approximately $4 million as well as use of field plots and other facilities. The crop protection industry provided access to products, technical support and approximately $1 million in funding. Regulatory partners include EPA, Pest Management Regulatory Agency in Canada, and the California Department of Pesticide Registration, which provided guidance and reviewed submissions. Registrations in the Food Use Program amounted to 219 permanent pesticide tolerances on 32 chemicals, resulting in as many as 952 new use registrations. The Ornamental Horticulture Program contributed six registrations, which had a direct impact on 614 crops. The backlog for each year varies from 500 to 750 registrations.

In FY 2010, NIFA provided $12.18 million in competitive grant funding to the IR-4 project. The same agencies and organizations listed for fiscal year 2009 also contributed like amounts in fiscal year 2010.

Registrations in the Food Use Program amounted to 786 new uses. Biopesticide tests yielded three new registrations and the ornamental horticulture crop program produced four new registrations, which positively affected 2,367 ornamental uses.

In FY 2011, NIFA provided $12.16 million in competitive grant funding to the IR-4 Project. The same agencies and organizations listed for FY 2010 also contributed like amounts in FY 2011. Registrations in the IR-4 Food Use Program amounted to 382 potential new uses. The ornamental horticulture crop program produced 11 registrations that affected the use of pesticides on 2,572 species of non-food crops.

In FY 2012, NIFA provided $11.91 million in competitive grant funding to the IR-4 Project. Data on the program are not yet available.

The President's Budget for FY 2013 proposed the consolidation of funding for the IR-4 Project and five other programs into the crop protection program. The budget proposal identifies five areas of focus for the new program. The Department is currently soliciting broad stakeholder input on the appropriate design of the crop protection program in anticipation of funding in FY 2013. Our goal is to improve the efficiency of the program and enhance NIFA's ability to support research, education, and extension activities needed to assist in global food security and respond to other major societal challenges. As we implement the program, we will try to minimize disruption to IR-4 and other ongoing efforts that are supported by the six programs proposed for budget consolidation. The Department values the partnerships that have developed as a result of its involvement with these pest management efforts over the past 50 years, and remains committed to supporting critical research, education and service efforts in FY 2013 and beyond. We do not anticipate a significant departure from the normal funding timelines in FY 2013. Funding for IR-4 and the other programs proposed for consolidation is currently distributed through competitive processes and we do not expect the transition to the coordinated crop protection program to significantly delay the normal timeline for distribution of awards.

Plant and Animal Genome Mapping

Mr. Kingston: Please update the summary provided in the fiscal year 2012 hearing record regarding all USDA plant and animal genome mapping activities, including participating agencies, funding and recipients, for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: Agricultural Research Service (ARS) animal and plant genome mapping support for agricultural animal and crop species is coordinated through consortiums comprised of Federal agencies (National Institutes of Health, ARS, National Institute of Food and Agriculture (NIFA), National Science Foundation; Department of Energy), universities, and the private sector. These initiatives are providing opportunities for expanding genomic resources, advancing systems biology and biomedical research, translating basic discovery to tools for improving animal and crop production and protection, and developing coordinated solutions to data access, analysis, and synthesis.

Animal and crop genome mapping activities include second and third generation DNA sequencing instruments being used to reduce sequencing costs, provide longer sequence reads and reduce errors in genome sequences to dramatically improve research productivity.

Bovine, poultry (chicken and turkey), swine, small ruminant (sheep and goat), and various aquaculture species (catfish, trout, Pacific oyster) have all had mapping and sequence progress in the past year, which enhances the ability to use genomic information in animal improvement. Database development for sharing data and analytical tools has been a focus of activities over the past year.

The FY 2013 budget initiatives for animal production and protection include proposed increases for genomic/phenotypic knowledge-based development, including:

- The development of strategies to maximize the efficiency of nutrient utilization for animals using emerging genetic and genomic technologies;
- The integration of genomic sequence information and variation with phenotypic data in knowledge bases to speed production efficiency, and health and animal quality improvements; and
- Improved agronomic performance of fish through selective breeding and application of marker assisted selection.

The ARS FY 2013 budget initiative incorporates support for crop genome mapping under the ARS Environmental Stewardship Initiative and invests in three key platforms to enable sustained improvements in maize, rice, and wheat germplasm for yield, drought tolerance, heat and cold tolerance, and improved nutrient use efficiency, including:

- Crop genetic resource analysis;
- High throughput trait (phenotyping) analysis;
- Germplasm improvement using next generation theory and methods for translating DNA sequences (genotype) to traits (phenotype); and
- Crop genetic resources for food security.

Funding for ARS research activities related to animal genome mapping is as follows: FY 2009, $30,011,000; FY 2010, $30,765,000; FY 2011, $30,487,000; FY 2012, $29,611,000; and FY 2013, $28,427,000 (estimated). Funding for ARS research activities related to plant genome mapping is as follows: FY 2009, $12,511,000; FY 2010, $13,254,000; FY 2011, $13,242,000; FY 2012, $12,971,000; and FY 2013, $14,417,000 (estimated).

The National Institute of Food and Agriculture (NIFA) supports research on plant and animal genome mapping; it provided $56,261,000 in FY 2009,

$55,837,000 in FY 2010, and $57,835,000 in FY 2011(estimated). NIFA plans to continue to support research on plant and animal genome at similar levels in FY 2012 and FY 2013. Animal genomics efforts for USDA continue to follow the research, extension, and outreach priorities set forth in the USDA Animal Genomics Blueprint for 2008-2017. NIFA has addressed these priorities related to animal genome mapping through competitive program opportunities. As a result, the draft genome sequences of chicken, turkey, cattle, and pig are now completed. This was possible with USDA partnering with other federal agencies, such as the National Institutes of Health, stakeholders, states and international entities. Funds are being used for plant genome mapping to include genome structure and organization, functional genomics, bioinformatics and applied genomics. Recipient data for 2009 and 2010 is provided for the record for Plant and Animal Genome Mapping. 2011 data is not yet available.

Clerk's note: The data listing is too voluminous to print, and is on record in Committee files.

Citrus Greening

Mr. Kingston: Please provide a summary of all USDA activities regarding citrus greening, including participating agencies, funding and recipients for fiscal years 2009 through 2012. Please include information on the citrus greening advisory board. Also describe USDA's plan for fiscal year 2013.

Response: Citrus greening (Huanglongbing), transmitted by the Asian citrus psyllid, is the most serious threat to the U.S. citrus industry, since it was first detected in 2005, causing millions of dollars in damage and lost revenue in Florida. The disease has been confirmed in an orange grove in Texas and more recently has been reported in California. Since December 2009, the Agricultural Research Service (ARS), National Institute of Food and Agriculture (NIFA), and Animal and Plant Health Inspection Service have coordinated research, extension, and regulatory efforts as part of the Citrus Health Research Program (CHRP) with industry leaders from primary citrus-producing States. The goal of this group is to coordinate individual research projects toward solutions to citrus greening that are flexible and unique for each State. Funding for citrus research, extension and outreach, and regulatory programs come from several sources, including base funds and grants provided by State box tax programs. ARS research funds are reported below.

A National Agricultural Research, Extension, Education, and Economics [NAREEE] Board citrus health subcommittee has been formed. The NAREEE Board Executive Director at USDA in Washington, DC, is the primary contact for the subcommittee.

Research plans for FY 2013 to control and manage citrus greening are multifaceted and build on progress made since 2009. This includes (1) continued improvement on vector suppression that provides significant saving to the growers and reduction in the amount of pesticide needed; (2)new strategies for sampling and survey that aid eradication programs and area-wide psyllid suppression; (3)improved diagnostics for rapid detection post-infection; (4) new therapeutic treatments for infected trees; (5) developing methods for interference of transmission by the vector; and (6) production of citrus cultivars and rootstocks that are promising for protection against this disease, and that can be used in an integrated management program.

Funding for ARS research activities related to citrus greening is as follows: FY 2009, $642,000; FY 2010, $1,645,000; FY 2011, $1,638,000; FY 2012, $1,490,000; and FY 2013, $1,490,000 (estimated).

NIFA supports research on citrus greening and provided $878,000 in FY 2009, $1,665,000 in FY 2010, and $427,000 in FY 2011. Fiscal year 2012 award decisions have not been finalized. In 2013 NIFA plans to continue to support research in protecting crops from citrus greening. Examples of the types of recipients of funding for citrus greening include land-grant institutions and public and private universities and colleges. Recipient data for 2009 and 2010 is provided for the record for Citrus Greening. 2011 data is not yet available.

NIFA CITRUS GREENING Recipients

FY 2009

PROJ TYPE: 3D GRANT
UNIV. OF CALIFORNIA COOPERATIVE EXTENSION
E-IPM Support Project, CA: Education Program for California and Arizona Stakeholders Affected by Asian Citrus Psyllid and Huanglongbing

PROJ TYPE: 3D GRANT
UNIVERSITY OF PUERTO RICO EXTENSION
Puerto Rico Citrus Greening Training Program

PROJ TYPE: 3D GRANT
TEXAS COOPERATIVE EXTENSION
Texas AgriLife Extension EIPM Program Proposal

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
The Citrus Clonal Protection Program (CCPP) and The Study of Pathogenic and Host Regulating Graft Transmissible Agents of Citrus

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Virus and Bacterial Diseases of Citrus

PROJ TYPE: HATCH
UNIVERSITY OF FLORIDA
Rhizosphere Interactions Affecting Root Health of Citrus and Tomato Crops

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Citrus Nursery Propagation Management Practices

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Movement of Ca. Liberibacter Asiaticus in Phloem Tissue and Seasonal Variation of Bacterial Titer

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

New Orchard Designs and Intensive Cultural Management Systems for Citrus

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Improvement of Agrochemical Application Technologies for Citrus Applications

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Development of Culturing Methods for Candidatus Liberibacter asiaticus, the organism associated with Citrus Greening

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Integrated Management of Insect and Mite Pests of Citrus

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Characterization of the Virulence Mechanism of the Citrus Huanglongbing Pathogen Candidatus Liberibacter asiaticus

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Molecular and Biochemical Analyses of Greening and Fungal Diseases of Citrus

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Enzyme Stabilization and Rapid Methods for Citrus and Fruit Juice Quality

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Economic Analysis of the Florida Citrus Industry Competing in a Global Market

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Economic Analysis of the Florida Citrus Industry competing in a Global Market

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Develop Methods to Modify Citrus to Provide Resistance or Tolerance to Citrus Greening and Canker

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Bacterial-Host Interactions: Citrus Greening (Huanglongbing)

PROJ TYPE: SMALL BUSINESS GRANT

DATASTAR, INC.

Remote Sensing for Early Detection and Mitigation of Plant Stress and Disease in Florida Citrus

PROJ TYPE: SPECIAL GRANT

UNIVERSITY OF FLORIDA

Infection Processes Associated with Citrus Canker and Citrus Greening

PROJ TYPE: SPECIAL GRANT

UNIVERSITY OF FLORIDA

IPM Strategies for High Density, Intensively Managed Citrus Orchards.

PROJ TYPE: SPECIAL GRANT

UNIVERSITY OF FLORIDA

Infection processes associated with citrus canker and citrus greening

FY 2010

PROJ TYPE: 3D GRANT

UNIVERSITY OF PUERTO RICO EXTENSION

Coordination and Implementation of IPM Programs in Puerto Rico

PROJ TYPE: HATCH

UNIVERSITY OF ARIZONA

Whitefly-Transmitted Virus-Vector Complexes in Irrigated and Controlled Production Systems in the Sonoran Desert Region

PROJ TYPE: HATCH

UNIVERSITY OF CALIFORNIA

The Citrus Clonal Protection Program (CCPP) and The Study of Pathogenic and Host Regulating Graft Transmissible Agents of Citrus

PROJ TYPE: HATCH

UNIVERSITY OF CALIFORNIA

INTEGRATED PEST MANAGEMENT OF SAN JOAQUIN VALLEY CITRUS ARTHROPODS

PROJ TYPE: HATCH

UNIVERSITY OF CALIFORNIA

Molecular and cellular mechanisms of insect gustation

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Rhizosphere Interactions Affecting Root Health of Citrus and Tomato Crops

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Citrus Nursery Propagation Management Practices

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

New Orchard Designs and Intensive Cultural Management Systems for Citrus

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

CITRUS GREENING FY 10

Improvement of Agrochemical Application Technologies for Citrus Applications

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Virus and Bacterial Diseases of Citrus

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Development of Culturing Methods for Candidatus Liberibacter asiaticus, the organism associated with Citrus Greening

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Integrated Management of Insect and Mite Pests of Citrus

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Characterization of the Virulence Mechanism of the Citrus Huanglongbing Pathogen Candidatus Liberibacter asiaticus

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Molecular and Biochemical Analyses of Greening and Fungal Diseases of Citrus

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Movement of Ca. Liberibacter Asiaticus in Phloem Tissue and Seasonal Variation of Bacterial Titer

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Enzyme Stabilization and Rapid Methods for Citrus and Fruit Juice Quality

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Bacterial-Host Interactions: Citrus Greening (Huanglongbing)

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Develop Methods to Modify Citrus to Provide Resistance or Tolerance to Citrus Greening and Canker

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

DEVELOPMENT OF INTEGRATED SUSTAINABLE MANAGEMENT SYSTEMS FOR AGRICULTURE IN FLORIDA

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Citrus Rootstock and Scion Cultivar Development

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

RESPONSE AND METABOLISM OF CITRUS EXPOSED TO ABIOTIC AND BIOTIC STRESS

PROJ TYPE: HATCH

UNIVERSITY OF FLORIDA

Biological control of invasive insect pests of crops and native flora in Florida

PROJ TYPE: OTHER GRANTS

ARIZONA STATE UNIVERSITY EAST

Asian Citrus Psyllid in California: an Economic Analysis of Efficient Management and Control Strategies

PROJ TYPE: SMALL BUSINESS GRANT

ISCA TECHNOLOGIES, INC.

Accurate Huanglongbing (HLB) Diagnosis

PROJ TYPE: SMALL BUSINESS GRANT

ISCA TECHNOLOGIES, INC.

A guava-volatile-based repellent formulation to manage the Asian citrus psyllid, the key vector of Citrus Greening

PROJ TYPE: SPECIAL GRANT

UNIVERSITY OF FLORIDA

Using leaf starch content as a detection tool for HLB infection in Citrus trees

PROJ TYPE: SPECIAL GRANT

UNIVERSITY OF FLORIDA

Characterization of Imidacloprid Fate and Transport During Management of Citrus greening

PROJ TYPE: SPECIAL GRANT

UNIVERSITY OF FLORIDA

Transferring disease-resistance technology from a model system to Florida crop plants

PROJ TYPE: SPECIAL GRANT

UNIVERSITY OF FLORIDA

Development of a new generation of fungal based biological control agents targeted towards invasive pests

PROJ TYPE: SPECIAL GRANT

UNIVERSITY OF FLORIDA

Infection processes associated with citrus canker and citrus greening

PROJ TYPE: SPECIAL GRANT

UNIVERSITY OF PUERTO RICO AT MAYAGUEZ

A Citrus Greening Rehabilitation Program: Disease survey, research in the augmentation of the parasitoid Tamarixia radiata for psyllid control, implementation of managem

Brown Marmorated Stink Bug

Mr. Kingston: Please provide a summary of all USDA activities regarding the brown marmorated stink bug, including participating agencies, funding and recipients for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: The Agricultural Research Service (ARS) has assumed a leadership role in the effort to advance priorities established in the NIFA-sponsored Brown Marmorated Stink Bug (BMSB) Working Group, as detailed in the group's strategic plan (http://www.northeastipm.org/working-groups/bmsb-working-group/). ARS has implemented an aggressive research program and actively partnered with the Animal and Plant Health Inspection Service, Environmental Protection Agency, and land-grant universities across the United States to accomplish these priorities. ARS researchers have established the efficacy of a broad range of insecticides against BMSB to ensure that growers have critical stop-gap solutions to manage this devastating pest, and to provide key information for Section 18 applications for emergency use exemptions. ARS scientists in Beltsville, Maryland and Kearneysville, West Virginia have taken a leadership role in identifying lures and developing traps for monitoring BMSB. Recently, ARS made a breakthrough discovery of the aggregation pheromone of BMSB, providing the first effective attractant to detect and monitor BMSB populations season-long, and has identified light-based cues for BMSB that significantly enhance attractiveness of the traps. These monitoring tools are critical to timing treatments. In cooperation with the ARS overseas biocontrol laboratories, ARS researchers in Newark, Delaware are leading long-term biological control solutions with foreign exploration in Asia to find natural enemies adapted to BMSB in its native range. At least three egg parasitoids have been obtained from BMSB in Asia in culture and are undergoing host range evaluation in Newark, Delaware. ARS scientists in Kearneysville are leading a NIFA Specialty Crop Research Initiative (SCRI) project ($5.7 million) designed to develop management tools for BMSB in specialty crops. Fourteen cooperating institutions from 10 states are part of this project.

In 2013, ARS will focus on refining monitoring tools for BMSB and developing 'attract and kill' technologies as well as finding feeding deterrents and repellents. ARS is also leading a BMSB genome sequencing project that will help elucidate targets. ARS will also publish a review of Asian literature on BMSB biology, ecology, and management. ARS will also continue to evaluate foreign biological control agents for release and guide the multistate, multi-institution SCRI project.

Funding for ARS research activities related to BMSB is as follows: no funding in FY 2009, FY 2010, $800,000; FY 2011, $750,000; FY 2012, $875,000; and FY 2013, $875,000 (estimated).

The National Institute of Food and Agriculture supports research on the BMSB and provided $1,133,000 in FY 2009, $1,133,000 in FY 2010 and $536,000 in FY 2011. It expects to provide $536,000 in FY 2012 and estimates $531,000 in 2013. Recipients of funding for BMSB research include land-grant institutions and public and private universities and colleges. Funding will support activities that include pest management of the BMSB. Recipient data for 2009 and 2010 is provided for the record for BMSB. 2011 data is not yet available.

NIFA BMSB Recipients

FY 2009

PROJ TYPE: HATCH
LOUISIANA STATE UNIVERSITY
Biology, Distribution, and Management of Soybean Insect Pests

PROJ TYPE: HATCH
UNIV OF MINNESOTA
Biology, Impact, and Management of Soybean Insect Pests in Soybean Production Systems

PROJ TYPE: HATCH
RUTGERS UNIVERSITY
Investigations into a new invasive species, Halyomorpha halys (Stal) (Hemiptera: Pentatomidae), a potential threat to New Jersey agriculture

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Exotic Insect Surveillance in the Northeast and Pacific Northwest: Protecting American Plant Resources from Alien Species

PROJ TYPE: HATCH
NEW YORK AGRICULTURAL EXPERIMENT STATION
Development of Arthropod Management Systems for Tree Fruits in Eastern New York

PROJ TYPE: HATCH
VIRGINIA POLYTECHNIC INSTITUTE
Biology, Impact, and Management of Soybean Insect Pests in Soybean Production Systems

FY 2010

PROJ TYPE: 3D GRANT
UNIVERSITY OF DELAWARE
University of Delaware Extension IPM Coordination Proposal FY2010

PROJ TYPE: 3D GRANT
IOWA COOPERATIVE EXTENSION
Iowa State University Integrated Pest Management Coordination Program

PROJ TYPE: 3D GRANT
RUTGERS UNIVERSITY
New Jersey Extension IPM Coordination

PROJ TYPE: 3D GRANT
UNIVERSITY OF RHODE ISLAND
IPM Coordination in Rhode Island

PROJ TYPE: 3D GRANT
UTAH STATE UNIVERSITY EXTENSION
Utah IPM Program at Utah State University

PROJ TYPE: 3D GRANT
VIRGINIA COOPERATIVE EXTENSION, VA POLYTECH INST.
Virginia IPM Program

PROJ TYPE: 3D GRANT
WEST VIRGINIA UNIVERSITY EXTENSION SERVICE
Extension IPM Coordination at West Virginia University

PROJ TYPE: HATCH
UNIVERSITY OF KENTUCKY
Biology, impact, and management of soybean insect pests in soybean production systems

PROJ TYPE: HATCH
LOUISIANA STATE UNIVERSITY
Biology, Distribution, and Management of Soybean Insect Pests

PROJ TYPE: HATCH
MICHIGAN STATE UNIV
Ecology and Management of Insects in Michigan's Small Fruit Industries

PROJ TYPE: HATCH
UNIV OF MINNESOTA
Biology, Impact, and Management of Soybean Insect Pests in Soybean Production Systems

PROJ TYPE: HATCH
RUTGERS UNIVERSITY
Investigations into a new invasive species, Halyomorpha halys (Stal) (Hemiptera: Pentatomidae), a potential threat to New Jersey agriculture

PROJ TYPE: HATCH
NEW YORK AGRICULTURAL EXPERIMENT STATION
Development of Arthropod Management Systems for Tree Fruits in Eastern New York

PROJ TYPE: HATCH
OHIO STATE UNIVERSITY
Biology, Impact, and Management of Soybean Insect Pests in Soybean Production Systems (S-1010)

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
Understanding and Managing Arthropod Pests and Natural Enemies Through Various Approaches on Deciduous Tree Fruits in Pennsylvania

PROJ TYPE: HATCH
VIRGINIA POLYTECHNIC INSTITUTE
Biology, Impact, and Management of Soybean Insect Pests in Soybean Production Systems

PROJ TYPE: HATCH
VIRGINIA POLYTECHNIC INSTITUTE
Improving Tactics for Control of Stink Bugs in Soybean, Cotton and Tomato

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF FLORIDA
Southern Plant Diagnostic Network

PROJ TYPE: OTHER GRANTS
MICHIGAN STATE UNIV
North Central Plant Diagnostic Network

PROJ TYPE: OTHER GRANTS
RUTGERS UNIVERSITY
Biology, Distribution and Pest Status of the Brown Marmorated Stink Bug (BMSB) in Agronomic, Fruit and Vegetable Crops, and Urban Areas

PROJ TYPE: OTHER GRANTS
PENNSYLVANIA STATE UNIVERSITY
Northeastern Integrated Pest Management Center

Alfalfa

Mr. Kingston: Please provide a summary of all USDA activities regarding alfalfa, including participating agencies, funding and recipients for fiscal years 2009 through 2012. Also describe USDA's plan for fiscal year 2013.

Response: Agricultural Research Service (ARS) scientists are conducting alfalfa genetic improvement and marker selection research for biotic and abiotic stresses to build a genetic pipeline to help accelerate the development of superior performing plants. ARS is conducting fundamental research to improve the quality and value of alfalfa as forage for livestock and as a valuable addition to crop production systems. ARS researchers are breeding alfalfa that has less protein loss when harvested and stored, improving methods for harvesting and storing forages to capture and retain more nutrients, and determining how cows use nutrients in forages in order to reduce nitrogen and phosphorous losses to the environment. ARS researchers are developing a biomass-type alfalfa that is taller and does not lodge at later maturity stages, to allow less frequent harvesting than conventional forage-type alfalfa, lower harvest costs, and to protect early summer nesting birds. ARS researchers are increasing the establishment and persistence of yellow-flowered *Medicago falcata* under grazing by improving tolerance to drought and salinity stresses. ARS scientists have initiated work to develop new uses and markets for alfalfa protein. ARS researchers are working to develop new value-added products that can improve the value of alfalfa products, including energy. The ARS Plant Germplasm Introduction and Testing Research Station helps expand the genetic diversity in the U.S. alfalfa germplasm collection, improve availability of information about alfalfa genetic resources, and distribute pathogen-tested samples. ARS researchers are leading research to ensure the genetic integrity of the U.S. alfalfa germplasm collection and to help determine best practices for managing the coexistence of nontransgenic and transgenic alfalfa hay and seed production for markets.

ARS is developing a coordinated research plan for FY 2013 to increase the effect of agency alfalfa research and to build effective linkages with university and industry partners. The coordinated plan will address three broad areas of research that provide value to the alfalfa, forage, and dairy industries including but not limited to the following: 1) germplasm improvement (yield, biotic and abiotic stress, marker assisted selection); 2) management for animal nutrient intake and for revenue lines; and 3) ecosystem services (rotational effect, soil health [nitrogen, phosphorus, potassium, microbes], and carbon sequestration).

Funding for ARS research activities related to alfalfa is as follows: FY 2009, $3,367,000; FY 2010, $4,124,000; FY 2011, $3,768,000; FY 2012, $4,322,000; and FY 2013, $4,322,000 (estimated).

The National Institute of Food and Agriculture supports research on alfalfa, having provided $2,425,000 in FY 2009, $2,025,000 in FY 2010, and $4,822,000 in FY 2011. It expects to provide $4,822,000 in FY 2012 and estimates $1,305,000 in 2013. Recipients of funding for alfalfa include land-grant institutions and public and private universities and colleges. . Recipient data for 2009 and 2010 is provided for the record for alfalfa. 2011 data is not yet available.

NIFA ALFALFA Recipients

FY 2009

PROJ TYPE: 3D GRANT
WASHINGTON STATE UNIVERSITY EXTENSION
Extension IPM Coordination for Washington State

PROJ TYPE: 3D GRANT
UNIV OF WISCONSIN
Revitalizing Potato Leafhopper IPM in Alfalfa Through Local Farmer Networks

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIVERSITY OF GEORGIA
Improving alfalfa as a biofuel feedstock

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIV OF MINNESOTA
Ecological ramifications of defensive symbiosis in an invasive aphid pest

PROJ TYPE: EVANS-ALLEN
DELAWARE STATE UNIVERSITY
Integrated Pest Management of Insect Pests of Alfalfa

PROJ TYPE: HATCH
UNIVERSITY OF ARIZONA
Technology Use Characterization of Selected Field Crops in Arizona

PROJ TYPE: HATCH
UNIVERSITY OF ARKANSAS
Nitrogen Cycling, Loading, and Use Efficiency in Forage-Based Livestock Production Systems (formerly NCT-196 and NC-189)

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
DYNAMICS OF HYBRIDIZATION IN SULPHUR BUTTERFLIES

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
AGRONOMIC PRACTICES AFFECTING YIELD, FORAGE QUALITY, AND SUSTAINABILITY OF IRRIGATED FORAGE AND BIOFUEL CROPS

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
ENHANCING THE BENEFITS OF PLANT-ASSOCIATED BACTERIA

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Biology and Management of Vegetable and Field Crop Insects and Diseases and the Effects of Conservation Tillage on Corn Insects

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
CELL WALL POLYSACCHARIDE STRUCTURE AND METABOLISM

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Economic and Environmental Impacts of the Adoption of Genetically Modified Foods

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
Novel Breeding Methods, Genetic Enhancement, and Evaluation of Agronomic Crop Plants Focusing on Alfalfa

PROJ TYPE: HATCH
UNIVERSITY OF CALIFORNIA
Insect-Plant Interactions and Plant Resistance to Phloem-Feeding Insects

PROJ TYPE: HATCH
COLORADO STATE UNIVERSITY
Enhancing Field Crop Production in the Arkansas River Valley

PROJ TYPE: HATCH
UNIVERSITY OF DELAWARE
Environmental and Genetic Determinants of Seed Quality and Performance

PROJ TYPE: HATCH
UNIVERSITY OF GEORGIA
Transformation technologies

PROJ TYPE: HATCH
UNIVERSITY OF GEORGIA
Insect Management of Grain, Forage and Alternative Agronomic Crops

PROJ TYPE: HATCH
UNIV OF IDAHO
Alfalfa Yield and Quality Estimation Using Environmental Variables, and Improved Forage Quality Tests

PROJ TYPE: HATCH
UNIV OF IDAHO
Management of Arthropods in Specialty Crops

PROJ TYPE: HATCH
UNIV OF IDAHO
Reducing Barriers to Adoption of Microirrigation

PROJ TYPE: HATCH
UNIV OF IDAHO
Alfalfa Yield and Quality Estimation Using Environmental Variables, and Improved Forage Quality Tests

PROJ TYPE: HATCH
PURDUE UNIVERSITY
UTILIZING FORAGES FOR IMPROVED CROP AND LIVESTOCK PRODUCTION SYSTEMS

PROJ TYPE: HATCH
PURDUE UNIVERSITY
Compatibility factors in crop plant-bacteria interactions

PROJ TYPE: HATCH
PURDUE UNIVERSITY
Chromosome structure in soybean and comparative physical mapping to other legume species.

PROJ TYPE: HATCH
KANSAS STATE UNIV
Deficit Irrigation Strategies for Crop Production in Western Kansas

PROJ TYPE: HATCH
UNIVERSITY OF KENTUCKY
Positional cloning and characterization of RCT1, an anthracnose resistance gene in Medicago

PROJ TYPE: HATCH
UNIV OF MARYLAND
Tolerance of Perennial Forage Stands for Managing Leafhopper Injury

PROJ TYPE: HATCH
UNIV OF MINNESOTA
Ecology and Evolution of Plant-Associated Microbes in Agricultural and Native Habitats

PROJ TYPE: HATCH
UNIV OF MINNESOTA
LEGUMES IN CROPPING SYSTEMS

PROJ TYPE: HATCH
MONTANA STATE UNIVERSITY
ECOLOGY AND BEHAVIOR OF RANGELAND INSECTS

PROJ TYPE: HATCH
MONTANA STATE UNIVERSITY
PLANT GENETIC RESOURCE CONSERVATION AND UTILIZATION

PROJ TYPE: HATCH
MONTANA STATE UNIVERSITY
Integrated Pest Management of Montana Field and Forage Crops

PROJ TYPE: HATCH
MONTANA STATE UNIVERSITY
Integrated Management of Agricultural Weeds in Montana

PROJ TYPE: HATCH
UNIVERSITY OF NEBRASKA
WEED CONTROL SYSTEMS FOR WESTERN NEBRASKA IRRIGATED CROPS AND RANGELAND

PROJ TYPE: HATCH
UNIVERSITY OF NEBRASKA
Conservation of Insect Predators of Alfalfa Insect Pests Using Harvest Management, Vegetative Landscape Features, and Artificial Honeydew

PROJ TYPE: HATCH
UNIVERSITY OF NEW HAMPSHIRE
Metabolic Relationships in Supply of Nutrients for Lactating Cows

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Management Practices to Increase Forage Production and Nutritive value in Southeastern New Mexico

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Plant Genetic Resource Cultivation and Utilization

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Weed Control in Crop and Non-Crop Areas in Northwestern New Mexico

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Developing Forage Management Strategies to Meet Changes in New Mexico Agriculture

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Appropriate Water Conservation Technologies for Small Farms and Urban Landscapes

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Biology and Integrated Pest Management of Arthropods in New Mexico Field Crops

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Genetic Improvement of Alfalfa (Medicago sativa L.) Germplasm for New Mexico

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Whole Farm Dairy and Beef Systems for Environmental Quality

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Biology and Management of Field Crop Diseases in New York

PROJ TYPE: HATCH
CORNELL UNIVERSITY
Harmonia axyridis Boon or Bane: Assessing the Positive and Negative Impacts of an Introduced Ladybeetle

PROJ TYPE: HATCH
NORTH CAROLINA STATE UNIV
Nitrogen Metabolism of Beef Cattle in Forage-Based Management Systems

PROJ TYPE: HATCH
NORTH DAKOTA STATE UNIV
Improving Forage Production and Quality in North Dakota

PROJ TYPE: HATCH
OHIO STATE UNIVERSITY
Integrated Control of Forage Crop Diseases

PROJ TYPE: HATCH
OKLAHOMA STATE UNIVERSITY
Impacts of disturbance on soil-dwelling microarthropod communities and soil-dwelling entomopathogens in annual, semi-permanent and permanent man

PROJ TYPE: HATCH
OKLAHOMA STATE UNIVERSITY
Weeds in Cultivated Agronomic Row Crops and Their Management

PROJ TYPE: HATCH
OKLAHOMA STATE UNIVERSITY
Functional Characterization of a Conserved Zinc-Finger Protein Gene Family in the Regulation of Plant Stress Tolerance.

PROJ TYPE: HATCH
OKLAHOMA STATE UNIVERSITY
Alfalfa Breeding and Management

PROJ TYPE: HATCH
OKLAHOMA STATE UNIVERSITY
Functional Genomics of Plant Pathogenic Fungi

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
Developing Improved Forage Management Systems for Pennsylvania

PROJ TYPE: HATCH
SOUTH DAKOTA STATE UNIVERSITY
Breeding Perennial Grasses and Legumes for Bioenergy, Forage, and Environmental Purposes

PROJ TYPE: HATCH
SOUTH DAKOTA STATE UNIVERSITY
Management of Forage Crops for Feed and Bioenergy

PROJ TYPE: HATCH
TEXAS A&M UNIV
PASTURE MANAGEMENT STRATEGIES TO OPTIMIZE YEAR-ROUND FORAGE PRODUCTION IN THE SEMI-ARID ENVIRONMENTS OF THE TEXAS ROLLING PLAINS

PROJ TYPE: HATCH
UTAH STATE UNIVERSITY
Biological Control in Pest Management Systems of Plants

PROJ TYPE: HATCH
UTAH STATE UNIVERSITY
Interactions Between Evaporation Fluxes and CO2 Exchanges in Agricultural and Rangeland Ecosystems

PROJ TYPE: HATCH
VIRGINIA POLYTECHNIC INSTITUTE
Differential Parasitism by a Specialist Parasitoid in the Virginia Alfalfa System:Identifying Underlying Mechanisms

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
PLANT GENETIC RESOURCE CONSERVATION AND UTILIZATION

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Biological Diversity Studies of Arthropod Taxa

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
NUTRIENT EXCHANGE AND METABOLISM IN THE RHIZOBIUM-LEGUME SYMBIOSIS

PROJ TYPE: HATCH
UNIV OF WISCONSIN
Functional Analysis of the Plant Dynamin, DRP1, during Rhizobium Infection in Medicago Truncatula

PROJ TYPE: HATCH
UNIV OF WISCONSIN
A Nuclear Putative Ion Channel Crucial for Bacterial and Fungal Symbioses with Plant Roots

PROJ TYPE: HATCH
UNIV OF WISCONSIN
Potato Leafhopper Economic Thresholds in Alfalfa: Revisiting Integrated Pest Management Decision Support for Forage in a High Value Field Crop Commodity Rotation

PROJ TYPE: HATCH
UNIVERSITY OF WYOMING
Plant Genetic Research Conservation and Utilization

PROJ TYPE: NRI COMPETITIVE GRANT
UNIVERSITY OF KENTUCKY
Intraguild predation among aphidophagous lady beetles

PROJ TYPE: NRI COMPETITIVE GRANT
UNIVERSITY OF MISSOURI
Adaptively Managing Agricultural Production for Future Climate and Land Use Changes in Montana's Flathead River Basin

PROJ TYPE: NRI COMPETITIVE GRANT
NEW MEXICO STATE UNIV
Drought Responsive Genes and Physiological Traits as Enriched Sources of Candidate Markers to Improve Alfalfa Drought Tolerance

PROJ TYPE: NRI COMPETITIVE GRANT
NEW MEXICO STATE UNIV
Regulatory Mechanism Underlying Posttranscriptional Regulation of Cytosolic Glutamine Synthetase in Alfalfa

PROJ TYPE: NRI COMPETITIVE GRANT
UNIV OF WISCONSIN
Long-term, broad-scale biological control of pea aphids by multiple natural enemies

PROJ TYPE: NRI COMPETITIVE GRANT
US DAIRY FORAGE RES CTR USDA
Elucidating the Roles of Hydroxycinnamoyl Transferases and p-Coumaroyl 3-Hydroxylases in o-Diphenol Biosynthesis in Red Clover

PROJ TYPE: OTHER GRANTS
UNIV OF CALIFORNIA
Assessing Gene Flow in a Honey Bee Pollinated Outcrossing Crop

PROJ TYPE: OTHER GRANTS
IOWA STATE UNIVERSITY
Enhancing Farmland Water Quality and Availability through Soil-Building Crop Rotations and Organic Practices

PROJ TYPE: OTHER GRANTS
WASHINGTON STATE UNIVERSITY
Sustainable Dryland Organic Farming Systems in the Pacific Northwest

PROJ TYPE: OTHER GRANTS
UNIV OF WISCONSIN
Crop Plant Nutrition and Insect Response in Organic Field Crop Production: Linking Farmer Observation to University Research and Extension

PROJ TYPE: OTHER GRANTS
UNIVERSITY OF WYOMING
Marketing Opportunities and Constraints Confronting Organic Farming Operations in the High Plains

PROJ TYPE: SPECIAL GRANT
OREGON STATE UNIVERSITY
Oregon Organic Cropping Research

FY 2010

PROJ TYPE: 3D GRANT
UNIVERSITY OF ARIZONA
The Arizona Pest Management Center: Enhancing Capacity for IPM Practice in Diverse Environments

PROJ TYPE: 3D GRANT
UNIV. OF CALIFORNIA COOPERATIVE EXTENSION
EIPM-CS Coordination Project, CA (UC): IPM for California's Communities and Agriculture

PROJ TYPE: AFRI COMPETITIVE GRANT
UNIV OF CALIFORNIA
Assessment and mitigation of whole farm sustainability and emissions from dairy production systems in the arid West

PROJ TYPE: AFRI COMPETITIVE GRANT
FLORIDA STATE UNIVERSITY
The role of molecular factors in the invasion of legume plant hosts by bacterial symbionts

PROJ TYPE: AFRI COMPETITIVE GRANT
WORCESTER POLYTECHNIC INSTITUTE
Role Of Rhizobium copper and zinc transport ATPases in the symbiosis with legumes

PROJ TYPE: AFRI COMPETITIVE GRANT
THE SAMUEL ROBERTS NOBLE FOUNDATION, INC.
Deciphering proanthocyanidin biosynthsis in alfalfa

PROJ TYPE: AFRI COMPETITIVE GRANT
AGRICULTURAL RESEARCH SERVICE
Molecular, physiological, and agronomic characterization of salt tolerant alfalfa germplasm

PROJ TYPE: HATCH
UNIVERSITY OF ARIZONA
Technology Use Characterization of Selected Field Crops in Arizona

PROJ TYPE: HATCH
UNIVERSITY OF ARIZONA
Development of a Refuge Strategy for the Management of Whitefly Resistance to Pyriproxyfen

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
AGRONOMIC PRACTICES AFFECTING YIELD, FORAGE QUALITY, AND SUSTAINABILITY OF IRRIGATED FORAGE AND BIOFUEL CROPS

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
ENHANCING THE BENEFITS OF PLANT-ASSOCIATED BACTERIA

PROJ TYPE: HATCH
UNIV OF CALIFORNIA
CELL WALL POLYSACCHARIDE STRUCTURE AND METABOLISM

PROJ TYPE: HATCH
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Biology and Management of Vegetable and Field Crop Insects and Diseases and the Effects of Conservation Tillage on Corn Insects

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PROJ TYPE: HATCH
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Environmental and Genetic Determinants of Seed Quality and Performance

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UNIVERSITY OF GEORGIA
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PROJ TYPE: HATCH
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PROJ TYPE: HATCH
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Chromosome structure in soybean and comparative physical mapping to other legume species.

PROJ TYPE: HATCH
KANSAS STATE UNIV
Deficit Irrigation Strategies for Crop Production in Western Kansas

PROJ TYPE: HATCH
UNIVERSITY OF KENTUCKY
Positional cloning and characterization of RCT1, an anthracnose resistance gene in Medicago

PROJ TYPE: HATCH
UNIV OF MARYLAND
Tolerance of Perennial Forage Stands for Managing Leafhopper Injury

PROJ TYPE: HATCH
UNIV OF MINNESOTA
LEGUMES IN CROPPING SYSTEMS

PROJ TYPE: HATCH
UNIV OF MINNESOTA
The Ecology and Evolutionary Biology of Plant-Associated Microbial Communities

PROJ TYPE: HATCH
MONTANA STATE UNIVERSITY
ECOLOGY AND BEHAVIOR OF RANGELAND INSECTS

PROJ TYPE: HATCH
MONTANA STATE UNIVERSITY
Integrated Management of Agricultural Weeds in Montana

PROJ TYPE: HATCH
UNIVERSITY OF NEBRASKA
WEED CONTROL SYSTEMS FOR WESTERN NEBRASKA IRRIGATED CROPS AND RANGELAND

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Weed Control in Crop and Non-Crop Areas in Northwestern New Mexico

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Biology and Integrated Pest Management of Arthropods in New Mexico Field Crops

PROJ TYPE: HATCH
NEW MEXICO STATE UNIV
Genetic Improvement of Alfalfa (Medicago sativa L.) Germplasm for New Mexico

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Developing Forage Management Strategies to Meet Changes in New Mexico Agriculture

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NEW MEXICO STATE UNIV
Management Practices to Increase Forage Production and Nutritive value in Southeastern New Mexico

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CORNELL UNIVERSITY
Biology and Management of Field Crop Diseases in New York

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Harmonia axyridis Boon or Bane: Assessing the Positive and Negative Impacts of an Introduced Ladybeetle

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Whole Farm Dairy and Beef Systems for Environmental Quality

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OHIO STATE UNIVERSITY
Integrated Control of Forage Crop Diseases

PROJ TYPE: HATCH
OKLAHOMA STATE UNIVERSITY
Weeds in Cultivated Agronomic Row Crops and Their Management

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OKLAHOMA STATE UNIVERSITY
Functional Characterization of a Conserved Zinc-Finger Protein Gene Family in the Regulation of Plant Stress Tolerance.

PROJ TYPE: HATCH
OKLAHOMA STATE UNIVERSITY
Impacts of disturbance on soil-dwelling microarthropod communities and soil-dwelling entomopathogens in annual, semi-permanent and permanent man

PROJ TYPE: HATCH
PENNSYLVANIA STATE UNIVERSITY
Developing Improved Forage Management Systems for Pennsylvania

PROJ TYPE: HATCH
SOUTH DAKOTA STATE UNIVERSITY
Breeding Perennial Grasses and Legumes for Bioenergy, Forage, and Environmental Purposes

PROJ TYPE: HATCH
SOUTH DAKOTA STATE UNIVERSITY
Management of Forage Crops for Feed and Bioenergy

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TEXAS A&M UNIV
PASTURE MANAGEMENT STRATEGIES TO OPTIMIZE YEAR-ROUND FORAGE PRODUCTION IN THE SEMI-ARID ENVIRONMENTS OF THE TEXAS ROLLING PLAINS

PROJ TYPE: HATCH
UTAH STATE UNIVERSITY
Biological Control in Pest Management Systems of Plants

PROJ TYPE: HATCH
VIRGINIA POLYTECHNIC INSTITUTE
Differential Parasitism by a Specialist Parasitoid in the Virginia Alfalfa System: Identifying Underlying Mechanisms

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Biological Diversity Studies of Arthropod Taxa

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
Plant Genetic Resource Management, Preservation, Characterization and Utilization (from W006)

PROJ TYPE: HATCH
WASHINGTON STATE UNIVERSITY
NUTRIENT EXCHANGE AND METABOLISM IN THE RHIZOBIUM-LEGUME SYMBIOSIS

PROJ TYPE: HATCH
UNIV OF WISCONSIN
Functional Analysis of the Plant Dynamin, DRP1, during Rhizobium Infection in Medicago Truncatula

PROJ TYPE: HATCH
UNIV OF WISCONSIN
Potato Leafhopper Economic Thresholds in Alfalfa: Revisiting Integrated Pest Management Decision Support for Forage in a High Value Field Crop Commodity Rotation

PROJ TYPE: HATCH
UNIV OF WISCONSIN
Using Grass in Dairy Diets to Reduce Non Fibrous Carbohydrate

PROJ TYPE: OTHER GRANTS
RUTGERS UNIVERSITY
A mode of plastid inheritance survey in Medicago truncatula assessing the feasibility of transgene containment in plastids

PROJ TYPE: OTHER GRANTS
CLEMSON UNIVERSITY
Clemson University Veterinary Institute

PROJ TYPE: OTHER GRANTS
SOUTH DAKOTA STATE UNIVERSITY
Sun Grant Program - North Central Region

PROJ TYPE: SPECIAL GRANT
WASHINGTON STATE UNIVERSITY
Food Security, WA

National Agricultural Statistics Service

National Operations Center

Mr. Kingston: Please provide a status report on the National Operations Center.

Response: The National Agricultural Statistics Service (NASS) has opened a National Operations Center (NOC) that provides an infrastructure for expanded telephone data collection capacity in a centralized environment, centralizes sampling frame activities and experts, and improves training of telephone and field interviewers through focused and deliberate delivery of a standardized training protocol. Details in this initiative are provided below. The NOC opened on schedule in autumn 2011 and is presently staffing to meet its production schedule.

In 2009, NASS embarked on a well-designed plan to transform the business process for collecting, processing, analyzing, and disseminating agricultural statistics. One component of this plan involved the establishment of a centralized data collection and processing center. Working through the General Services Administration, the agency selected a site in St. Louis, Missouri that reduces operating costs, increases staff efficiency, and improves data quality.

In 2011, the Secretary of Agriculture cut the ribbon on the renovations of the Charles F. Prevedel Federal Building. Final construction and furniture delivery were completed in early September 2011. Staffing of the new operations center began over the summer as 25 current NASS employees relocated from other NASS locations. All-sources job announcements were posted by the end of 2011, 28 additional people were on board.

The NOC is designed to complete a large portion of the Agency's telephone data collection. Construction of the call center included 154 calling seats, 18 seats for coaches and supervisors, and a 12-station call monitoring room. The Agency's survey interviewer training is conducted at the NOC and enhanced training for telephone interviewers began immediately after the NOC opened. Currently there are 6 supervisors, 18 coaches, and 86 telephone interviewers on board. Plans call for the hiring of 250-300 additional intermittent interviewers in order to staff calling operations 6 days a week, 15 hours per day.

Another component of the NOC is the Frames Maintenance Group. The Agency's list sampling frame is developed, maintained, and efficiently sampled by this group, which completes record linkage with newly acquired list sources and adds newly discovered farm operator names to increase coverage of the list frame. Maintenance is performed on a daily basis to keep the frame as up to date as possible.

The Forms Processing Group receives the paper-based survey and census questionnaires that are completed and mailed by farmers and ranchers. These forms are checked in to make sure there is no contact by telephone. The forms are then scanned for image retrieval and entered into a centralized database.

During 2012, NASS will continue to select and train well qualified telephone interviewers until we reach full data collection capacity. NASS will transfer all of the frames maintenance activities from NASS field offices to the NOC and activities will be completely centralized and standardized. Forms processing capacity will also expand with new mail processing equipment.

International Assistance by NASS

Mr. Kingston: Please update the list provided in the fiscal year 2012 hearing record of the countries to which NASS is providing technical assistance, including a brief description of the assistance provided, for fiscal years 2009 through 2012 and the 2013 estimate.

Response: As the premier agricultural statistics agency in the world, the National Agricultural Statistics Service (NASS) is supporting the U.N. Global Strategy on improving agricultural and rural statistics. A small staff supports this international effort, which affects world agricultural statistics released by the USDA World Agricultural Outlook Board. Following is a list of countries and the activities that have occurred or are planned to occur for each fiscal year. These activities are conducted on a reimbursable basis with support from other agencies.

Afghanistan
- FY 2011: Staff conducted an initial assessment of the capabilities of the government agencies responsible for agricultural statistics in Afghanistan and made recommendations for a capacity building program.

Armenia
- FY 2009: Staff assisted with the initial planning for collecting agricultural data with the Armenian Population Census and conducting an agricultural census following the population census.

- FY 2010: Staff continued to assist with the preparation of the population and agricultural censuses, including how to establish an agricultural producer register from the results. NASS staff also assisted with the preparations for a food safety survey.

- FY 2011: Staff assisted in the review of pilot population census results and continued to prepare for the agricultural census. Staff also helped start a food safety survey across the country.

- FY 2012: Staff will assist in the review of the agricultural data collected from the population census and make final preparations for the agricultural census.

- FY 2013: Staff plans to assist with analysis of agricultural census and development of an annual survey program.

Bangladesh
- FY 2012: NASS conducted an assessment of the capacity of the government for agricultural data collection and analysis in support of the Feed the Future program.

- FY 2013: Staff plans to provide technical assistance and training to improve the capacity to collect and disseminate quality and timely agricultural statistics.

Brazil

- FY 2009: Two groups visited the United States for training on the survey methodology and procedures for objective yield surveys in general with specific application for citrus objective yield.

- FY 2010: Staff from the Brazilian Institute of Geography and Statistics attended a NASS workshop preparing for the Agricultural Resource Management Survey and worked with NASS staff to design a similar survey in Brazil.

Georgia

- FY 2009: NASS staff provided assistance to the Department of Statistics in the development of data collection quality control procedures. In addition, staff assisted in the analysis and summarization of Georgian quarterly agricultural survey and designed the sample for 2010. Staff from the Georgian Department of Statistics also traveled to the United States for training on survey methodology.

- FY 2010: Staff assisted with the analysis and summarization of the quarterly agricultural survey data. Staff helped develop interviewer training programs and training for regional offices within Georgia. NASS staff also helped conduct data users meetings to determine the data needs of both public and private data users in the country. Finally, NASS assisted in producing a supplemental survey on animal health practices.

- FY 2011: NASS staff assisted in preparations for the 2011 quarterly agricultural surveys. Staff also assisted in the review and analysis of the animal health practices survey. In addition, staff helped conduct regional training on data collection and survey methodology.

- FY 2012: NASS continues to provide technical assistance to improve the quarterly agricultural surveys by instituting new survey methodologies and quality control procedures. NASS is assisting with collection and processing of animal health data from a survey of farmers and from a survey of veterinarians.

- FY 2013: NASS Staff will continue with the FY 2012 program of assistance. Future technical assistance efforts by NASS will include assisting GEOSTAT to prepare annual and quarterly statistical publications; assist GEOSTAT to update the list of agricultural operators and select new samples of agricultural operators for 2012 surveys; and assist GEOSTAT to prepare to collect agricultural data on the next population census of Georgia.

Ghana

- FY 2011: NASS conducted an assessment of the capacity of the Government of Ghana for agricultural data collection and analysis in support of the Feed the Future program.

- FY 2012: NASS visited appropriate officials and staff at the Ministry of Food and Agriculture and the Ghana Statistical Service to determine their priorities and identify collaborative activities for improving the timeliness and accuracy of the agricultural statistics they produce. This information will form the basis of a detailed plan for moving forward with an agricultural statistics improvement project.

- FY 2013: NASS plans to implement an agricultural statistics improvement project.

Haiti

- FY2010: NASS staff conducted an initial assessment of the market information and agricultural statistics system in Haiti during August 2010.

- FY 2011: Staff completed an assessment of the agricultural statistics system in Haiti that included the Ministry of Agriculture, Natural Resources and Rural Development, National Food Security Coordination Office, National Center for Geo Spatial Information, Food Security Network, and the Haitian Institute of Statistics and Computing. NASS hosted a study tour for selected representatives of organizations associated with agricultural statistics to establish a long-term capacity building program in Haiti.

- FY 2012: NASS is working with Haitian officials to implement an agricultural statistics capacity building program. A pilot project to test methodology for an annual agricultural survey will be implemented.

- FY 2013: NASS will work with Haitian officials to expand the FY 2012 pilot project to include the entire country.

Indonesia

- FY 2010: NASS staff conducted an extensive review of the agricultural statistics system of the Central Bureau of Statistics and provided recommendations for improvements.

Madagascar

- FY 2009: NASS organized and hosted a study tour for officials with the Directorate of Information Systems at the Malagasy Ministry of Agriculture, Livestock and Fisheries. The group learned about organization, methodology, and management of programs for preparing and disseminating official agricultural statistics, conducting economic analyses relative to production agriculture and agricultural markets, and developing marketing strategies. Further activities were suspended by the U.S. Department of State because of political instability in Madagascar.

Moldova

- FY 2011: NASS staff conducted an assessment of the Moldova National Bureau of Statistics capacity to collect, analyze, and disseminate agricultural statistics. Recommendations were provided for developing the Moldova General Agricultural Census (GAC) questionnaire. The design of a list sampling frame from GAC respondents was initiated.

- FY 2012: NASS is assisting with the development of a regular agricultural survey program. The survey program will consist of other, smaller surveys that use the sampling frame generated from the GAC as a basis to sample from.

- FY 2013: NASS will continue to assist with the development and implementation of a routine agricultural survey program.

Mongolia

- FY 2009: Staff worked with the National Statistics Office to design a sample to determine livestock mortality rates in pilot aimags (states) to be used to determine indemnity payments for an index-based livestock insurance program sponsored by the World Bank. Staff also summarized results of the survey.

- FY 2010: Staff worked with the National Statistics Office to design a sample to determine livestock mortality rates in pilot and operational aimags (states) to be used to determine indemnity payments for an index based livestock insurance program. Staff assisted the National Statistics Office's development of a summarization system.

- FY 2011: Staff worked with the National Statistics Office to design a sample to determine livestock mortality rates in pilot and operational aimags (states) to be used to determine indemnity payments for an index based livestock insurance program. The program now covers over 80% of the country.

- FY 2012: Staff is continuing to assist with implementation of the index-based livestock insurance program.

Mozambique

- FY 2011: NASS conducted an assessment of the capacity of the government to collect and analyze agricultural data.

Nigeria

- FY 2009: NASS staff conducted an initial assessment of Nigeria's agricultural statistics program. As a result, a team of agricultural statisticians from several organizations traveled to the United States for a study tour to learn about our agricultural statistics system. At the end of the tour, the group decided to request assistance to develop a pilot area sampling frame in one State.

- FY 2010: NASS staff assisted geographic information systems personnel in developing the area sampling frame in Kaduna State. Staff also assisted in the development of a questionnaire and data collection methods for a pilot survey using the area sampling frame. Finally, staff assisted in the summarization of the data collected in the pilot survey.

- FY 2011: Staff assisted with the evaluation of the area sampling frame based on the results of the pilot survey.

- FY 2012: NASS did not assist because of delays from change of government in Nigeria.

- FY 2013: NASS will assist in the construction and sampling of the additional area frame(s) and with the editing, analysis, and summarization of survey results.

Pakistan

- FY 2011: Staff conducted an initial assessment of the agricultural statistics capabilities within the Ministry of Food and Agriculture, Federal Bureau of Statistics, and the Punjab Province Crop Reporting Service to develop a capacity building program.

Russia
- FY 2010: NASS staff provided training on survey methodology and sampling procedures to the Federal State Statistics Service of the Russian Federation as part of a project funded by the World Bank.

Serbia
- FY 2009: NASS conducted an initial assessment of the agricultural statistics program working with the Ministry of Agriculture, Forestry and Water Management and the Statistics Office of the Republic of Serbia. Serbia was planning to conduct its first agricultural census in more than 50 years and requested assistance preparing for the census. NASS led workshops on questionnaire design and data collection and a critique of the census of agriculture questionnaire.

- FY 2010: NASS continued assistance in preparation for the agricultural census by conducting workshops to prepare a publicity plan, to train interviewers, and to design output tables for the results of the census.

- FY 2011: The Ministry of Agriculture, Forestry and Water Management requested assistance in developing a database of information to be used to address ad hoc policy questions within the Ministry. NASS hosted a workshop on database concepts and usage in the United States for key users from the Ministry and provided technical assistance as the database was being planned.

- FY 2012: NASS will continue to provide technical advice and review as the database of information is loaded and queries are developed. Assistance is provided for agricultural census planning.

- FY 2013: NASS will continue to provide technical advice and review for the agricultural census activities.

South Africa
- FY 2011: NASS conducted an assessment of the capacity of the Government of South Africa to collect and analyze agricultural data.

Tanzania
- FY 2011: NASS conducted an assessment of the capacity of the government to collect and analyze agricultural data in support of the Feed the Future program.

- FY 2012: NASS conducted a statistical workshop and a more in-depth assessment of the capacity for agricultural data collection.

- FY 2013: NASS plans to provide statistical assistance and training to improve the capacity to collect and disseminate quality and timely agricultural statistics.

NASS State Offices

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record listing the funding for state offices for fiscal years 2009 through 2012 and the 2013 estimate.

Response: The information is provided for the record.

[The information follows:]

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimate	FY 2013 Budget
Alabama	$902,390	$1,102,556	$1,068,989	$543,000	$543,000
Alaska	201,021	225,144	176,618	91,000	91,000
Arizona	836,787	852,001	933,334	362,000	362,000
Arkansas	1,211,093	1,441,200	1,270,757	905,000	905,000
California	2,248,703	2,737,552	2,082,167	2,715,000	2,715,000
Colorado	1,250,063	1,312,566	1,269,730	2,353,000	2,353,000
Delaware	124,116	139,010	149,220	91,000	91,000
District of Columbia	99,405,173	105,007,738	110,531,734	103,860,000	103,860,000
Florida	1,192,108	1,335,161	1,363,333	634,000	634,000
Georgia	1,312,622	1,365,127	1,287,763	2,625,000	2,625,000
Hawaii	774,832	954,593	835,538	362,000	362,000
Idaho	1,069,655	1,198,014	1,047,639	453,000	453,000
Illinois	1,440,597	1,411,786	1,305,048	815,000	815,000
Indiana	1,346,343	1,507,904	1,533,341	905,000	905,000
Iowa	1,283,613	1,437,647	1,413,039	2,353,000	2,353,000
Kansas	1,341,639	1,314,807	1,277,194	724,000	724,000
Kentucky	1,084,045	1,307,525	1,265,474	2,263,000	2,263,000
Louisiana	1,003,609	936,702	1,144,536	543,000	543,000
Maryland	898,610	914,948	906,100	453,000	453,000
Michigan	1,366,461	1,445,412	1,260,527	996,000	996,000
Minnesota	1,269,222	1,421,529	1,312,103	815,000	815,000
Mississippi	1,345,286	1,412,551	1,252,270	815,000	815,000
Missouri	1,095,700	1,139,528	6,660,786	13,500,000	13,500,000
Montana	844,824	1,032,221	1,179,686	634,000	634,000
Nebraska	1,339,753	1,312,957	1,307,254	2,444,000	2,444,000
Nevada	256,825	287,644	263,819	91,000	91,000
New Hampshire	1,117,481	1,162,180	1,206,299	724,000	724,000
New Jersey	939,448	956,529	999,389	453,000	453,000
New Mexico	733,156	821,135	800,873	272,000	272,000
New York	1,090,946	1,140,402	1,214,747	905,000	905,000
North Carolina	2,060,578	2,036,337	1,859,873	815,000	815,000
North Dakota	1,005,368	1,039,396	941,582	543,000	543,000
Ohio	1,428,491	1,599,910	1,483,756	905,000	905,000
Oklahoma	931,837	1,130,629	1,150,540	724,000	724,000
Oregon	1,093,767	1,225,019	1,057,832	634,000	634,000
Pennsylvania	1,077,297	1,206,573	1,055,867	2,172,000	2,172,000
South Carolina	869,603	973,955	976,787	362,000	362,000
South Dakota	1,178,638	1,232,069	1,365,470	634,000	634,000
Tennessee	992,146	1,025,726	1,294,666	815,000	815,000
Texas	1,969,125	2,310,440	1,846,658	2,806,000	2,806,000
Utah	728,191	815,574	758,863	272,000	272,000
Virginia	965,563	998,244	1,003,331	543,000	543,000
Washington	1,649,003	1,641,675	1,534,005	905,000	905,000
West Virginia	634,349	532,852	671,922	272,000	272,000
Wisconsin	1,459,065	1,538,027	1,528,515	996,000	996,000
Wyoming	650,728	809,795	906,076	543,000	543,000
Puerto Rico	218,696	224,000	313,216	181,000	181,000
Undistributed Census of Agriculture	0	0	0	0	20,656,000
Total Direct Obligations	149,238,566	158,974,290	168,068,266	158,821,000	179,477,000

Special Surveys

Mr. Kingston: Please provide a list and short description of any special surveys conducted in fiscal years 2011 and 2012.

Response: There were 2 special surveys provided in 2011 and 2012.

2011: On-Farm Renewable Energy: The 2009 On-Farm Renewable Production Survey (OREPS) was the first on-farm renewable energy production survey conducted at the national level by the National Agricultural Statistics Service (NASS). The energy survey provided an inventory of farm-generated energy practices with detailed data associated with the category or type of energy produced (wind, solar, and manure/methane digester), installation cost, percent of cost from outside funding, year installed, and total amount of utility savings from use of on-farm renewable energy production. As a result of this survey, the On-Farm Renewable Energy publication was released to the public in February 2011 on-line at http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/On-Farm_Energy_Production/index.php .

2012: NASS is currently conducting the National Agricultural Classification Survey (NACS), a list-building survey used to assemble the census mailing list. The NACS is sent to potential farming operators with the intent of determining whether they meet the USDA farm definition. Those who meet the farm definition will be included in the 2012 census. At the conclusion of the 2012 Census of Agriculture, NASS plans to conduct a number of special surveys, provided proper funding is available. The first will likely be the Farm and Ranch Irrigation Survey.

Pesticide Data Collection

Mr. Kingston: Please provide information on the NASS pesticide use survey. How much was spent on pesticide data collection in fiscal years 2009 through 2012 and what is estimated for fiscal year 2013?

Response: The National Agricultural Statistics Service (NASS) pesticide use survey is conducted on a reimbursable basis for the Agricultural Marketing Service (AMS). NASS assists in the development of sample designs, survey procedures, and estimation routines for AMS's, Monitoring Program Office Pesticide Data Program.

	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimate	FY 2013 Budget
Pesticide Use Survey	$30,000	$40,000	$40,000	$35,000	$35,000

Fertilizer and Chemical Input Surveys

Mr. Kingston: Please provide information on NASS fertilizer and chemical input surveys, including cost per year and frequency. How much was spent on these surveys in fiscal years 2009 through 2012 and what is estimated for 2013?

Response: In FY 2011, the National Agricultural Statistics Service (NASS) redesigned the chemical use program to continue, but with a reduced frequency. The fruit and vegetable chemical use surveys were performed in 2011 and the vegetable chemical use surveys will occur in 2013. These surveys will continue the first and third years, rotating in a 5-year cycle for fruits and vegetables. The chemical use survey is also coordinated in conjunction with the Agricultural Resource Management Survey (ARMS) for row crops and others.

Chemical Use Surveys	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Estimate	FY 2013 Budget
Fruit	$2,409,880	$2,670,676	$534,332	$1,183,878	0
Post harvest	2,784	1,467,723	0	0	0
Vegetable	37,336	4,061,601	1,911,316	0	$2,700,687
Row Crops & Other	0	0	3,239,352	$4,501,122	2,984,313
Total	2,450,000	8,200,000	5,685,000	5,685,000	5,685,000

Organic Surveys

Mr. Kingston: Please provide information on NASS organic surveys. How much was spent on these surveys in fiscal years 2009 through 2012 and what is estimated for 2013?

Response: Through the 2008 Farm Bill NASS was provided from the Commodity Credit Corporation funds $1,000,000 for organic studies and the organic survey occurred in 2009. NASS additionally received $250,000 in FY 2010 to fund summarization and dissemination of the 2009 survey results. No funding was provided for FY 2011-2012 or budgeted for FY 2013.

Census of Agriculture

Mr. Kingston: Please provide an update on the Agricultural Census and a full cycle accounting of costs.

Response: An accounting of the costs for the first four years of the 2012 Agricultural Census and an explanation of each category follows the table. Costs for the final year will be provided in the 2014 Budget.

[The information follows:]

Census of Agriculture	First FY 2010 Enacted	Second FY 2011 Enacted	Third FY 2012 Enacted	Fourth FY 2013 Budget
Direction	$7,700,000	$7,173,000	$7,300,000	$7,950,000
Content Determination & Design	2,500,000	7,400,000	8,550,000	2,800,000
Mail List Development & Design	7,100,000	6,000,000	8,900,000	14,700,000
Collection & Processing	16,808,000	10,000,000	13,139,000	31,500,000
Publication & Dissemination	3,800,000	2,500,000	3,750,000	5,550,000
Total Census Cycle $219,120,000	37,908,000	33,073,000	41,639,000	62,500,000

Direction: Includes planning and support activities to conduct the Census of Agriculture and follow-on activities, special studies, or surveys. Specifics include the design and testing of collection and processing systems, pretest activities, and overall coordination of the Census of Agriculture. Additional activities include obtaining approval from the Office of Management and Budget, documenting, monitoring systems and procedures, coordinating editing and analysis, and soliciting data user feedback.

Content Determination & Design: Includes determining questionnaire content for the Census of Agriculture and follow-on surveys or special studies. NASS staff researches, evaluates, and tests the questionnaires. This work also includes development activities for mail and electronic instruments, and the cost to print forms.

Mail list development & Design: Encompasses the costs associated with updating, maintaining, and enhancing the list of producers that will receive the Census of Agriculture questionnaire. Because of the consistent and redundant activities necessary to develop a robust and proficient Census of Agriculture mail list, NASS eliminated the maintenance of a separate mail list for the Agricultural Estimates annual surveys. The Census of Agriculture mailing list is now used for both Census of Agriculture and Agricultural Estimating Programs. Postage for the Census of Agriculture Mail-out packets is also included in this category.

Collection & Processing: Comprises all activities associated with data collection, including telephone operations, correspondence, editing, correcting erroneous or inconsistent data, and nonresponse follow-up activities. Significant increases in this category are tied to pay cost increases for National Association of State Departments of Agriculture (NASDA) enumerators and cost of the processing contract with the National Processing Center. In addition, part-time staff is needed for reviewing the large volume of returned records and correcting errors or inconsistent data.

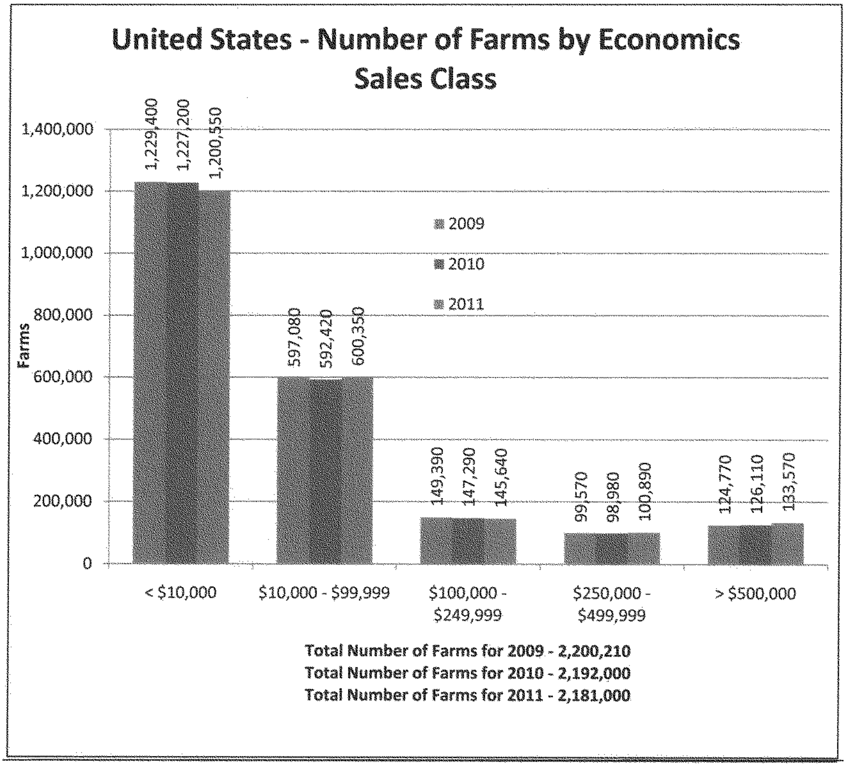
Publication & Dissemination: Entails all operations related to final review of data, publication, and dissemination to data users. This category covers printing special publications, development of electronic media, outreach, customer service, and public relations including marketing these products prior to data collection through public awareness activities.

U.S. Farms and Ranches

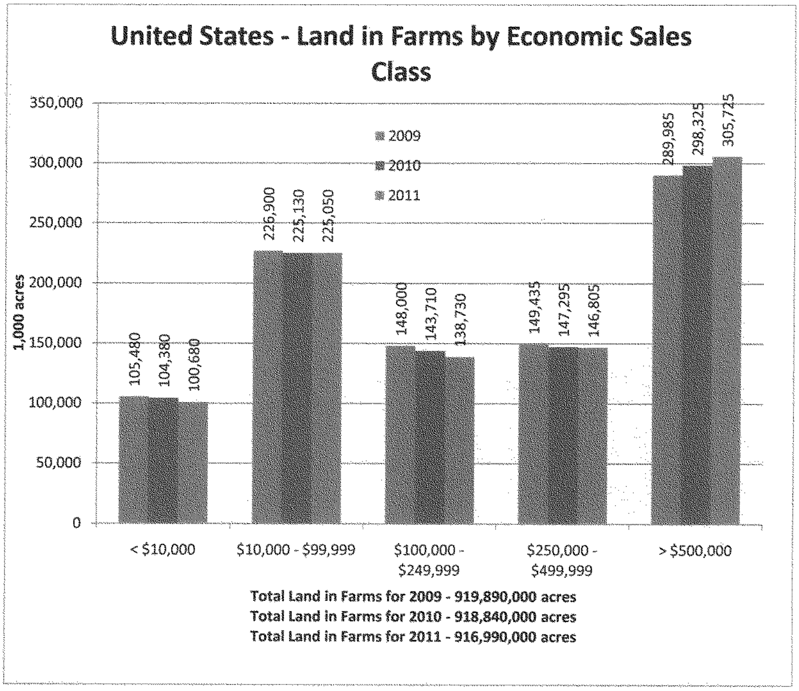
Mr. Kingston: Please provide a chart with the number of farms and ranches operating in the United States, acreage of land being farmed and ranched by category and total acreage for 2009, 2010 and 2011.

Response: The information is provided for the record.

[The information follows:]



Total Number of Farms for 2009 - 2,200,210
Total Number of Farms for 2010 - 2,192,000
Total Number of Farms for 2011 - 2,181,000



United States - Land in Farms by Economic Sales Class

Total Land in Farms for 2009 - 919,890,000 acres
Total Land in Farms for 2010 - 918,840,000 acres
Total Land in Farms for 2011 - 916,990,000 acres

NASS

Mr. Kingston: Please provide a thorough description of the purpose and work of the National Agricultural Statistics Service. Please include in the response answers to questions such as those that follow. How does NASS work differ from other USDA agencies? Who uses NASS information? What is the relationship with the World Agricultural Outlook Board?

Response: The mission of the National Agricultural Statistics Service (NASS) is to provide timely, accurate, and useful statistics in service to U.S. agriculture. To achieve this, NASS administers USDA's program of collecting and publishing current national, State, and county agricultural statistics. The Census of Agriculture, conducted every 5 years, provides comprehensive, local-level data about agricultural communities across America. The statistical data provided by NASS are essential to both the public and private sectors for making effective policy, production, and marketing decisions on a wide range of agricultural commodities. NASS programs are organized into the following three major areas: (1) agricultural estimates; (2) Census of Agriculture; and (3) work performed for others.

Agricultural Estimates:

The NASS agricultural estimates program is conducted through 45 field offices serving all 50 States, and a Puerto Rico field office. Scientifically designed surveys of farmers, ranchers, agribusinesses, and others provide the basis for developing estimates of production, supply, price, and many other aspects of the agricultural economy. These surveys are supplemented by field observations, objective yield counts and measurements, and other data to provide reliable information. Administrative data available from other USDA agencies and State departments of agriculture are also used to produce statistical reports, including monthly livestock and poultry slaughter, egg production, and dairy products reports.

Official USDA national and State reports are issued for the number of farms and land in farms; acreage, yield, production, and stocks of grains; production of hay, oilseeds, cotton, potatoes, tobacco, fruits, vegetables, floriculture, nursery, and selected specialty crops; inventories and production of hogs, cattle, sheep and wool, goats and mohair, mink, catfish, trout, poultry, eggs, and dairy products; prices received by farmers for products, prices paid for commodities and services, and related indexes; cold storage inventories; agricultural chemical use; and other related items that affect the agricultural economy. The NASS field offices forward the estimates to Headquarters in Washington, D.C., where data are combined, analyzed, and released at scheduled times to the media and public through the NASS Web site. Annually, NASS publishes more than 500 national agricultural statistical reports, covering more than 120 crop and 45 livestock items, complemented by more than 8,000 additional State statistical reports. These basic and objective data are critical to maintaining an orderly association between the consumption, supply, marketing, and input sectors of agriculture.

NASS provides timely and accurate agricultural statistics that are used throughout the agricultural sector to evaluate supplies and determine competitive prices for world marketing of U.S. commodities. These statistics promote a level playing field in production agriculture with impartial information available to everyone at a predetermined and publicized date and time.

Statistical data are also provided on chemical use and biotechnology for use in monitoring and evaluating risk assessment to both food safety and food security. Data on agricultural practices, farm and ranch irrigation practice trends, and the geographic information system cropland data layer provide meaningful information on the Nation's resource base and environment.

Census of Agriculture

The Census of Agriculture is the leading source of facts and figures about American agriculture. Conducted every 5 years, the Census provides a detailed picture of U.S. farms and ranches and the people who operate them. It is the only source of uniform, comprehensive agricultural data for every State and county in the United States.

For the 2012 Census of Agriculture, forms will be mailed in late December 2012 and farmers and ranchers are asked to respond by mail or online by early February 2013. Participation by every farmer and rancher, regardless of the size or type of operation, is vitally important. By responding to the

Census, producers are helping themselves, their communities, and all of U.S. agriculture.

The 2012 Census of Agriculture will collect information concerning all areas of farming and ranching operations, including production expenses, market value of products, and operator characteristics. This information is used by everyone who provides services to farmers and rural communities, including Federal, State and local governments, agribusinesses, and many others. Census data are used to make decisions about many things that directly affect farmers, including the following:

- community planning
- store/company locations
- availability of operational loans and other funding
- location and staffing of service centers
- farm programs and policies

NASS has positioned itself to conduct the Census of Agriculture with the best representation and coverage possible. NASS has devoted resources into building a list of farms and potential farms that will comprise the census mailing list in order to ensure that maximum coverage is achieved. The mailing list will consist of approximately 3 million names and addresses, many of which are small and socially disadvantaged farms. The Department of Agriculture has emphasized these operations to ensure that farmers and ranchers from all demographics are being treated fairly and equitably and have equal access to information and program availability. NASS has worked hard to reach out to minority groups through community-based organizations and tribal councils to obtain the names of as many potential minority farmers as possible and to later build rapport of trust and respect with farm operators.

NASS strives to maximize representation by maximizing response rates. NASS is currently planning to conduct three mailings and follow up with phone and personal interview contacts. This is important for ensuring that every demographic, farm type, and farm size is accurately counted. Small and socially disadvantaged farms typically have lower response rates by mail; therefore, phone and personal follow up is important to bring their response rates up. Maximizing response rates decreases variation and increases accuracy and reliability in the final numbers that are published. This is important in order to provide estimates that everyone in the agricultural community can trust and rely on. The Office of Management and Budget has a standard of 80 percent response rate. During the 2007 Census of Agriculture, NASS achieved an 85.2 percent response rate and will strive to meet or exceed that mark for the 2012 Census.

NASS also uses the information collected in the Census of Agriculture to build a sampling frame used in the Agricultural Estimates Program. This sampling frame is critically important to adequately cover specific commodities and farm attributes that are routinely estimated in the more than 500 reports that NASS produces on an annual basis. The questions answered in the census also updates our list frame for follow-on studies such as Farm and Ranch Irrigation, Horticulture, On Farm Energy, Aquaculture and many others. Having a thorough and up-to-date list frame is necessary in order to accurately set the thousands of county estimates on a number of crop commodities used in Risk Management Agency insurance programs. These programs cover approximately $95 billion of crop value and provide a safety net for farmers hit by adverse weather or price fluctuations. Participation in the Census is required by law, and that same law protects the confidentiality of all individual responses.

Worked Performed for Others

NASS conducts surveys for and lends technical expertise to other Federal agencies, State governments, and private organizations on a reimbursable basis. NASS provides support and assistance in the areas of questionnaire and sample design, data collection and editing, analysis of survey results, and training. NASS also provides technical consultation, support, and assistance to foreign countries desiring to enhance their statistical programs.

Statistics generated meet special needs not covered by the NASS estimates program. In addition, statistical consultation by NASS staff members contributes to improvements in the overall quality and consistency of statistical information produced for the needs of other organizations.

Relationship with World Agricultural Outlook Board

Each month, the USDA publishes crop supply and demand estimates for the Nation and the world. These estimates are used as benchmarks in the marketplace because of their comprehensive nature, objectivity, and timeliness. The statistics that USDA releases affect decisions made by farmers, businesses, and governments, by defining the fundamental conditions in commodity markets.

NASS forecasts U.S. crop production on the basis of data collected from farm operations and field observations. Forecasts for each crop season begin with a winter wheat and rye seedings report in early January, followed by a March report that gives a first look at what farmers intend to plant. This is followed in late June by a report of the acreage actually planted. Monthly yield and production forecasts begin in May for winter wheat, in July for spring wheat and other small grains, and in August for other spring-planted crops, concluding with estimates of actual production at the end of the harvesting season. NASS also conducts quarterly surveys of grain and soybeans stored on and off farms.

The World Agricultural Outlook Board (WAOB) coordinates an interagency process that prepares monthly forecasts of supply and demand for major crops, both for the United States and the world, and follows a balance-sheet approach to account for supplies and utilization. The major components of the supply and demand balance sheet are beginning stocks, production, domestic use, trade, and end-of-season carryout stocks. Whereas forecasts of U.S. crop production and estimates of U.S. stocks on hand are independently prepared by NASS, U.S. and foreign supply and demand forecasts are developed jointly by several USDA agencies. The WAOB uses NASS data during the monthly crop lockup.

The NASS *Crop Production* report and the *World Agricultural Supply and Demand Estimates* (*WASDE*) report are prepared simultaneously in a secured area and released at 8:30 a.m. Eastern Time between the 9th and 12th day of each month. Joint preparation enables USDA analysts to incorporate the new NASS production forecasts of U.S. crops into supply and demand estimates. These estimates provide an overview for more detailed analyses published by other agencies of USDA, especially the Foreign Agricultural Service and the Economic Research Service. Country-level data published by all USDA agencies must be consistent with the supply and demand numbers released by NASS and WAOB.

Economic Research Service

ERS Research on Human Nutrition

Mr. Kingston: Please update the description provided in the fiscal year 2012 hearing record of the research ERS conducts related to SNAP, WIC and child nutrition programs, including funding, for fiscal years 2009 through 2012. Also describe ERS's plans for fiscal year 2013.

Response: The Economic Research Service (ERS) conducts economic research and analysis on the immediate and long-term consequences of alternative policies and programs aimed at ensuring access by children and adults to safe and nutritious food. This research addresses factors that can improve the effectiveness and efficiency of the Nation's domestic nutrition assistance programs, including the SNAP, WIC, and the Child Nutrition Programs. Research findings are used by policy makers, program managers, and those shaping efforts to promote access to affordable and healthful food, especially by low-income households.

Extramural research leverages ERS's internal research expertise and draws upon the multidisciplinary expertise of outside researchers and the resources of institutions and universities across the country.

During fiscal years 2009 through 2012, ERS conducted internal research and funded extramural research in targeted, high-priority areas including: food assistance and children's well-being; interactions between the "built environment" and food assistance; using behavioral economics and incentives to promote child nutrition; and food assistance and the recession. During 2012 and 2013, ERS is partnering with the Census Bureau and the Food and Nutrition Service to make better use of SNAP and WIC program administrative data for research.

In fiscal year 2013, ERS research will continue to support the USDA's annual data collection on food security in the United States, examine how food choices and health outcomes are related to food assistance programs and community characteristics, examine the role of the changing economy and program policies on program participation, and begin to analyze key food assistance-related questions about food acquisition behavior using ERS's new Food Acquisition and Purchase Survey (FoodAPS).

ERS activities related to *Human Nutrition*	**FY 2009** **Enacted**	**FY 2010** **Enacted**	**2011** **Enacted**	**FY 2012** **Enacted**	**FY 2013** **Request**
Extramural research (FANRP + RIDGE)	$4,408,000	$4,408,000	$4,408,000	$3,408,000	$3,408,000
Intramural Research	2,498,000	2,629,000	2,629,000	2,629,000	2,630,314
Total	6,906,000	7,037,000	7,037,000	7,037,000	6,038,314

Broadband Technology

Mr. Kingston: The Research, Education, and Extension Action Plan that was released in February 2012 directs ERS to "Investigate mechanisms for overcoming the impediments to broadband technology access and adoption in rural areas." Please describe the purpose of this research and the agency's plan to conduct it, including a timeline and the estimated cost.

Response: As of 2010, 62 percent of rural households had access to the Internet from inside the home. Fifty-five percent of all rural households had a broadband, or high-speed, in-home access to the Internet. This compares with 73 percent and 70 percent for urban households, respectively. The Economic Research Service (ERS) has been concerned with the factors that explain rural Internet and broadband coverage and use since at least 1996, when questions on Internet need and use were included in an ERS survey of rural manufacturers. Questions on Internet use have been part of the USDA's Agricultural Resource Management Survey (ARMS) since 2002. In response to a 2007 request from Congress, ERS mounted a major project on broadband use and its effect on rural communities. The project involved extramural funding (three universities at a cost of $55,000) as well as several ERS staff, and culminated in a 2009 ERS report, "*Broadband Internet's Value for Rural America*."

Current ERS research builds on that 2009 study and examines the availability of broadband services using data that have recently been collected by the Federal Communications Commission and the National Telecommunications and Information Administration. This supply-side broadband Internet research uses geographic information systems and statistical techniques to develop a better understanding of why and where telecommunication firms invest in the infrastructure and equipment necessary for rural broadband provision. Greater understanding can support decision making by all levels of government on programs to bring broadband services to more rural communities.

The primary focus of ERS' research is on the factors that lead a rural household or farm to bring the Internet into the home. While millions of rural households do not have broadband Internet service available from a local provider, many more millions of rural households choose not to purchase broadband Internet service. Understanding the reasons for this shortfall can help policy makers make decisions on programs to increase broadband Internet adoption, and consequently lead to greater provision at lower costs for all rural households. The research uses ARMS data and the Bureau of the Census's Current Population Survey. Internet broadband availability and use are concerns included in two major upcoming ERS surveys, one on rural communities and health care services (including telemedicine) and the other on rural business establishment competitiveness and innovation. These surveys are scheduled to be completed in the next 12 months, with results published the year following.

The current research is planned for a 2-year period beginning in FY 2012 with a staffing level of 1.8 full-time equivalents at a cost of $195,000 per year.

SNAP and State Unemployment Insurance Program

Mr. Kingston: Dr. Bohman's testimony on the fiscal year 2013 budget mention a research effort using data from Supplemental Nutrition Assistance Program (SNAP) and data from state Unemployment Insurance programs to determine how the two programs work together to support families experiencing unemployment. Please summarize the study for the Committee. What is the purpose of the research? How will the results from it inform policymakers?

Response: This project examines operational issues of USDA's Supplemental Nutrition Assistance Program (SNAP) and its support for the working poor. In particular, the research addresses: (1) operational issues regarding SNAP participation decisions and the dynamics of program participation among low-income households with workers; and (2) the interactions between receipt of SNAP benefits and State Unemployment Insurance (UI) benefits. An issue of primary concern is the impact of the recent recession on the Nation's safety net. Since welfare reform in 1996, the two principal components of the safety net are USDA's SNAP, an entitlement program that provides monthly benefits to be used for food purchases by eligible households, and the State and Federally funded UI programs, which issue weekly benefits to individuals who have lost their jobs and meet the eligibility requirements of these programs. This project investigates the relationship between these two important components of the safety net in seven states: California, Florida, Georgia, Illinois, Maryland, Michigan, and Texas.

Information about the interactions between the two programs can identify potential "gaps" in coverage or utilization of SNAP. We know that about 30 percent of eligible households do not participate in SNAP. This research will indicate the extent to which UI exhaustees turn to SNAP as well as the number of months for which they receive no assistance from either safety-net program. These exhaustees may be an easily identifiable target group for SNAP outreach.

Preliminary analysis of the data shows that some SNAP entrants begin receiving UI benefits after becoming SNAP participants, thereby reducing their monthly SNAP allotments. The corollary is that monthly SNAP allotments may rise if households participating in both programs exhaust their UI benefits before finding new employment, so we also plan to investigate earnings levels both before and after SNAP enrollment. Learning more about the joint and sequential use of SNAP and UI can inform such policy and operational decisions as outreach efforts and matching employment and training requirements to needs, as well as gaining a better understanding of factors affecting future program costs.

Agricultural Research Service

ARS Lab/Facility Closings

Mr. Kingston: Please provide a description of all of the laboratories and facilities ARS is proposing to close in its fiscal year 2013 budget request.

Response: A table providing a description of all of the laboratories and facilities ARS is proposing to close in its FY year 2013 budget request is provided for the record.

[The information follows:]

FY 2013 Proposed Location/Laboratory Closures and Consolidations

Agricultural Research Service

Location (Program Termination) Closure/Consolidation	FY 2012 Funding
Arkansas, Booneville *	
Dale Bumpers Small Farms Research	$1,961,000
Maine, Orono	
New England Plant, Soil and Water Research	1,118,000
Maryland, Beltsville	
Food Quality Research	4,328,000
Michigan, East Lansing	
Avian Disease and Oncology Research	3,633,000
Missouri, Columbia	
Biological Control of Insects Research	1,880,000
Pennsylvania, Wyndmoor	
Biobased and Other Animal Co-Products Research	4,076,000
TOTAL LOCATION CLOSURES	$16,996,000

* Denotes Location Closure

Reallocation of Research Funds

Mr. Kingston: Please provide a list of each research project that is proposed for redirection in the fiscal year 2013 budget request. Include the name of the current project and the name of the proposed project.

Response: A table providing each research project that is proposed for redirection in the FY 2013 budget request including current project name and proposed project is provided for the record.

[The information follows:]

Current Project			Proposed Project		
Enhance Livestock Production in the United States					
El Reno, OK	Development and Assessment of a System to Produce Grass-fed Beef for the Southern Great Plains	**-$1,163,000**	**El Reno, OK**	Develop Integrated Production Systems that Incorporate Enhanced Germplasm and Pest/Pathogen/Water/Nutrient Management Strategies to Improve Production Efficiencies and Product Quality in Farm Animals	**$1,163,000**
New Orleans, LA	Bioremediation of Geosmin and Methylisoborneol (MIB)	**-748,000**	**New Orleans, LA**	Develop Integrated Production Systems that Incorporate Enhanced Germplasm and Pest/Pathogen/Water/Nutrient Management Strategies to Improve Production Efficiencies and Product Quality in Farm Animals	**748,000**
Booneville, AR (Dale Bumpers Small Farms Research/Location Closure)		**-984,000**	**Clay Center, NE**	Develop Integrated Production Systems that Incorporate Enhanced Germplasm and Pest/Pathogen/Water/Nutrient Management Strategies to Improve Production Efficiencies and Product Quality in Farm Animals	**492,000**
			El Reno, OK	Develop Integrated Production Systems that Incorporate Enhanced Germplasm and Pest/Pathogen/Water/Nutrient Management Strategies to Improve Production Efficiencies and Product Quality in Farm Animals	**492,000**
Orono, ME (New England Plant, Soil and Water Research/Laboratory Closure)		**-1,118,000**	**Orono, ME (Franklin, ME worksite)**	Develop Integrated Production Systems that Incorporate Enhanced Germplasm and Pest/Pathogen/Water/Nutrient Management Strategies to Improve Production Efficiencies and Product Quality in Atlantic Salmon.	**1,118,000**
Enhance Floral and Nursery Crop Research					
Headquarters	Floral and Nursery Crop Research Initiative	**-3,206,000**	**Beltsville, MD**	Floral and Nursery Crop Research	**3,206,000**
Crop Genetic Resources to Underpin Food Security					

Headquarters	Binational Agricultural Research and Development (BARD)	-524,000	**Multiple Locations**	Crop Genetic Resources to Underpin Food Security ($581,000)	
	Staffing and Operation for National Clonal Repositories for Plant Germplasm	-57,000		**Griffin, GA**	175,000
				Ft. Collins, CO	175,000
				Ames, IA	174,000
				Geneva, NY	11,000
				Davis, CA	12,000
				Riverside, CA	11,000
				Hilo, HI	11,000
				Corvallis, OR	12,000
Food Safety Research					
Wyndmoor, PA (Biobased and Other Animal Co-Products Research/Laboratory Closure)		-4,076,000	**Wyndmoor, PA**	Identify and Evaluate Specific Intervention Strategies through the Food Production Chain	4,076,000
Columbia, MO (Biological Control of Insects Research/Laboratory Closure)		-1,163,000	**Ames, IA**	Evaluate the Role of Alternatives to Antibiotics and the Role of Management Practices and the Environment on the Prevalence of Antimicrobial Resistance and Emerging Pathogens in Food Animals	1,163,000
Enhance Animal Health in the United States					
East Lansing, MI (Avian Disease and Oncology Research/Laboratory Closure)		-3,633,000	**Athens, GA**	Develop Countermeasures and Alternatives to Antibiotics to Prevent/Treat Pathogens affecting Poultry and Emerging Diseases affecting Farm Animals	3,633,000
Headquarters	Emerging Animal Diseases that Exist Offshore	-215,000	**Plum Island, NY**	Develop Countermeasures and Alternatives to Antibiotics to Prevent/Treat Pathogens affecting Poultry and Emerging Diseases affecting Farm Animals	215,000
Stoneville, MS	Biting and Stinging Pests: Ecology and Biologically-Based Control (Univ of MS)	-273,000	**Stoneville, MS**	Develop Countermeasures and Alternatives to Antibiotics to Prevent/Treat Pathogens affecting Poultry and Emerging Diseases affecting Farm Animals	273,000
Research Soil Microbial Ecology and Develop Plant Disease Management Strategies					
Washington, DC (United States National Arboretum)		-250,000	**Washington, DC (United States National Arboretum)**		250,000

	Biologically Based Management Strategies for Control of Soil-Borne Pathogens			Reduce Damage Caused by Soilborne Pathogens and Pests on Crop Yield and Quality	
Beltsville, MD	Integration of Biologically Based Technologies for Suppression of Soilborne Plant Pathogens	-545,000	**Beltsville, MD**	Mitigate Negative Impacts of Soilborne Pathogens and Pests on Crop Yield and Quality.	545,000
Beltsville, MD	Molecular Approaches to Understanding Host Resistance and Pathogen Variability for Improving Potato and Tomato Disease Management	-486,000	**Beltsville, MD**	Identify Novel Targets for Mitigation of Crop Yield and Quality Losses Due to Soilborne Pathogens	486,000
Parlier, CA	California Cropping Systems/Soil Health	-1,406,000	**Parlier, CA**	Reduce Losses in Crop Yield and Quality from Soilborne Pathogens and Pests.	1,406,000
Salinas, CA	Control of Pathogens in Strawberry and Vegetable Production Systems	-602,000	**Salinas, CA**	Reduce Negative Impacts of Soilborne Pathogens and Pests on Crop Yield and Quality.	602,000
Davis, CA	Integrated Strategies for Advance Management of Fruit, Nut and Oak Tree Diseases	-496,000	**Davis, CA**	Mitigate Negative Impacts of Soilborne Pathogens and Pests on Crop Yield and Quality.	496,000
Wenatchee, WA	Biologically-based Systems for Soilborne Disease Control in Tree Fruit Agro-Ecosystems	-713,000	**Wenatchee, WA**	Reduce Negative Impacts of Soilborne Pathogens and Pests on Crop Yield and Quality.	713,000
Corvallis, OR	Biology and Management of Soilborne Diseases of Horticultural Crops	-609,000	**Corvallis, OR**	Reduce Losses in Crop Yield and Quality from Soilborne Pathogens and Pests.	609,000
Corvallis, OR	Exotic, Emerging, Re-emerging, and Invasive Plant Diseases of Horticultural Crops	-428,000	**Corvallis, OR**	Mitigate Negative Impacts of Soilborne Pathogens and Pests on Crop Yield and Quality.	428,000
Ft. Pierce, FL	Vegetable Grafting for Resistance to Soilborne Diseases	-341,000	**Ft. Pierce, FL**	Reduce Impacts of Soilborne Pathogens and Pests on Crop Yield and Quality	341,000
Ft. Pierce, FL	Vegetable and Floriculture Production/Soil Health	-1,724,000	**Ft. Pierce, FL**	Mitigate Negative Impacts of Soilborne Pathogens and Pests on Crop Yield and Quality.	1,724,000
Enhance Control of Invasive Pests in the United States					
Headquarters	Area-Wide Management of Agricultural Pests	-2,978,000	**Headquarters**	Strengthen Research to Develop Technologies to Protect Crops from Invasive Species	1,867,000
			Frederick MD	Strengthen the Nation's Capacity to Protect Against New and Potential Pest Invasions	1,111,000

Enhance Protection of Small Fruit and Nursery Crops/Potatoes/Wheat from Disease in the United States					
Headquarters	Small Fruit and Nursery Research	-1,213,000	**Corvallis, OR**	Improve Disease Management of Small Fruits and Nursery Crops	1,213,000
Headquarters	Potato Research	-1,454,000	**Multiple Locations**	Improve Potato Production though Resistant Varieties and New Disease Management Techniques ($1,454,000)	
				Madison, WI	485,000
				Beltsville, MD	485,000
				Aberdeen, ID	484,000
Headquarters	Wheat Stripe Rust Initiative	-217,000	**Pullman, WA**	Improve Management of Stripe Rust of Wheat with Resistant Varieties	217,000
Enhance Fungal Disease Protection in Beans, Sunflowers, and Other Crops					
Fargo, ND	Sclerotinia diseases	-1,750,000	**Fargo, ND**	Enhance Fungal Disease Protection in Beans, Sunflowers, and Other Crops	1,750,000
Enhance Human Nutrition in the United States					
Beltsville, MD (Food Quality Research/Laboratory Closure)		-2,887,000	**Beltsville, MD (Human Nutrition Research Center)**	Enhance Nutrition Monitoring Capability by Adding Functionality to the Food Composition Database ($1,887,000) Enhance Nutrition Surveillance Capability to Link USDA/ARS Food Consumption Survey Data with Federal Dietary Policy Guidance ($1,000,000)	2,887,000
Enhance Natural Resources and the Environment for Agriculture					
Dawson, GA	Develop and Transfer Irrigated and Non-irrigated Peanut Management Technologies	-730,000	**Dawson, GA**	Enhance the Quantity and Quality of Water Resources for Agriculture and Agriculture Dominated Landscapes	730,000
Morris, MN	Multi-scale Evaluation of Land Use Management Systems in the Upper Midwest	-777,000	**Morris, MN**	Sustain Agricultural Production Capacity for Food and Energy Security and Ecosystem Services over Long Periods at Landscape Scales	777,000
Dawson, GA	Sustaining Peanut Cropping Systems Competitiveness	-899,000	**Dawson, GA**	Sustain Agricultural Production Capacity for Food and Energy Security and Ecosystem Services over Long Periods at Landscape	899,000

				Scales	
Mississippi State, MS	Development of Precision Agriculture Systems in Cotton Production	-1,212,000	**Mississippi State, MS**	Sustain Agricultural Production Capacity for Food and Energy Security and Ecosystem Services over Long Periods at Landscape Scales	1,212,000
Morris, MN	Advancing Sustainable and Resilient Cropping Systems for the Short Growing Seasons and Cold, Wet Soils of the Upper Midwest	-1,454,000	**Morris, MN**	Adapt Agricultural Systems to Climate Variability and Weather Extremes	1,454,000
Columbia, MO (Biological Control of Insects Research/Laboratory Closure)		-717,000	**Columbia, MO**	Enhance the Quantity and Quality of Water Resources for Agriculture and Agriculture Dominated Landscapes	717,000
Enhance Natural Resources and the Environment for Agriculture (Continued)					
Beltsville, MD (Food Quality Research/Laboratory Closure)		-1,441,000	**Beltsville, MD (Hydrology and Remote Sensing)**	Enhance the Quantity and Quality of Water Resources for Agriculture and Agriculture Dominated Landscapes	941,000
			Beltsville, MD (Crop Systems and Global Change Research)	Adapt Agricultural Systems to Climate Variability and Weather Extremes	500,000
Booneville, AR (Dale Bumpers Small Farms Research/Location Closure)		-977,000	**Temple, TX**	Enhance the Quantity and Quality of Water Resources for Agriculture and Agriculture Dominated Landscapes	977,000
Headquarters	Combined Water Quality Initiative	-104,000	**Ames, IA**	Enhance the Quantity and Quality of Water Resources for Agriculture and Agriculture Dominated Landscapes	104,000
Headquarters	Air Quality Associated with Agricultural Operations (SDL)	-680,000	**Ames, IA**	Sustain Agricultural Production Capacity for Food and Energy Security and Ecosystem Services over Long Periods at Landscape Scales	680,000
Headquarters	Global Climate Change	-136,000	**Ames, IA**	Adapt Agricultural Systems to Climate Variability and Weather Extremes	136,000

Bushland, TX	Sustaining Rural Economies through New Water Management Technologies (Kansas State Univ/Texas A&M/Texas Tech Univ/West Texas A&M)	**-1,658,000**	**Multiple Locations**	Enhance the Quantity and Quality of Water Resources for Agriculture and Agriculture Dominated Landscapes ($1,658,000)	
				Boise, ID	**523,000**
				Tifton, GA	**522,000**
				Akron, CO	**522,000**
				Tucson, AZ	**91,000**
Madison, WI	Alternative Crop and Forage Production Systems for Improved Nutrient Management (Univ of WI)	**-162,000**	**Madison, WI (Marshfield, WI)**	Enhance the Quantity and Quality of Water Resources for Agriculture and Agriculture Dominated Landscapes	**162,000**
National Agricultural Library/Digital Information Services					
NAL-Beltsville, MD	Downsize Multiple Initiatives, Programs/Operations	**-1,500,000**	**NAL-Beltsville, MD**	Provide Access to Sustainability and Environmental Data Sets for the Scientific Community	**1,500,000**
Other					
Headquarters	Area-Wide Management of Agricultural Pests	**-2,706,000**	Offset to Agency Pay Costs		**2,706,000**

Research Projects Terminated

Mr. Kingston: Please provide a list of all research projects terminated in fiscal years 2010 and 2011.

Response: There were six research projects terminated in FY 2010. Those projects were as follows: Animal Health Consortium ($820,000 at Headquarters); Arbuscular Mycorrhizal Fungi ($42,000 at Wyndmoor, Pennsylvania); Sorghum Research ($452,000 at Bushland, Texas); Vaccines and Microbe Control for Fish Health ($991,000 at Auburn, Alabama); Vector-Borne Diseases ($205,000 at Gainesville, Florida); and West Tennessee Mississippi River Cropping Systems Unit ($254,000 in Jackson Mississippi, which is a worksite of Stoneville, Mississippi.

In FY 2011, 46 research projects were terminated. Those projects were as follows: Animal Vaccines ($1,518,000 at Greenport, New York); Aquaculture Fisheries Center ($519,000 at Stuttgart, Arkansas); Aquaculture Initiatives, Harbor Branch Oceanographic Institute ($1,597,000 at Stuttgart, Arkansas); Arthropod-Borne Animal Diseases Research Laboratory ($1,500,000 at Manhattan, Kansas); Biomass Crop Production ($1,250,000 at Brookings, South Dakota); Biomedical Materials in Plants ($1,700,000 at Beltsville, Maryland); Bioremediation Research ($111,000 at Beltsville, Maryland); Biotechnology Research and Development Center ($3,500,000 at Headquarters); Catfish Genome ($819,000 at Auburn, Alabama); Cereal Disease Research ($290,000 at St. Paul, Minnesota); Computer Vision Engineer ($400,000 at Kearneysville, West Virginia); Crop Production and Food Processing ($786,000 at Peoria, Illinois); Dairy Forage Research Center ($2,500,000 at the Marshfield, Wisconsin work site of Madison, Wisconsin); Center for Agroforestry ($660,000 at Booneville, Arkansas); Dale Bumpers Small Farms Research Center ($1,805,000 at Booneville, Arkansas); Diet Nutrition and Obesity Research ($623,000 at New Orleans, Louisiana); Endophyte Research ($994,000 at Booneville, Arkansas); Forage Crop Stress Tolerance and Virus Disease Management ($200,000 at Prosser, Washington); Formosan Subterranean Termites Research ($3,490,000 at New Orleans, Louisiana); Foundry Sand By-Products Utilization ($638,000 at Beltsville, Maryland); Human Nutrition Research ($350,000 at Boston, Massachusetts); Human Nutrition Research ($350,000 at Houston, Texas); Human Nutrition Research, Kannapolis, North Carolina ($1,000,000 at Headquarters); Improved Crop Production Practices ($1,293,000 at Auburn, Alabama); Livestock-Crop Rotation Management ($349,000 at University Park, Pennsylvania); Lyme Disease, 4 Poster Project ($700,000 at Headquarters); Medicinal and Bioactive Crops ($111,000 at Washington, DC); Mosquito Trapping Research/West Nile Virus ($1,454,000 at Gainesville, Florida); National Bio and Agro Defense Facility ($1,500,000 at Manhattan, Kansas); National Center for Agricultural Law, NAL ($654,000 at Beltsville, Maryland); National Corn to Ethanol Research Pilot Plant ($360,000 at Headquarters); Northern Great Plains Research Laboratory ($543,000 at Mandan, North Dakota); Northwest Center for Small Fruits ($275,000 at Headquarters); Pacific Basin Agricultural Research Center Staffing ($700,000 at Hilo, Hawaii); Phytoestrogen Research ($1,750,000 at New Orleans, Louisiana); Potato Diseases Research ($61,000 at Beltsville, Maryland); Poultry Diseases Research ($408,000 at Beltsville, Maryland); Seismic and Acoustic Technologies in Soils Sedimentation Laboratory ($332,000 at Oxford, Mississippi); Sorghum Research $135,000 at Little Rock, Arkansas); Soybean Genomics ($200,000 in St. Paul, Minnesota); Subtropical Beef Germplasm ($1,033,000 at Brooksville, Florida); Termite Species in Hawaii ($200,000 at

New Orleans, Louisiana); Tropical Aquaculture Feeds (Oceanic Institute; $1,438,000 at Hilo, Hawaii); Water Management Research ($340,000 at Brawley, California); Water Use Reduction ($1,200,000 at Dawson, Georgia); and Wild Rice ($303,000 at St. Paul, Minnesota).

Extramural Project Terminations

Mr. Kingston: Please provide a list of all extramural activities terminated in fiscal years 2010 and 2011.

Response: One extramural agreement was terminated in FY 2010. This agreement was a specific cooperative agreement with the Biotechnology Research and Development Center in the amount of $738,000 funded from the Animal Health Consortium at Headquarters. Twenty-two research projects were terminated in FY 2011 that included extramural research. Extramural agreements associated with these research projects are provided for the record.

[The information follows:]

EXTRAMURAL ACTIVITIES TERMINATED IN FY 2011		
Research Title	**Cooperator**	**Amount**
Animal Vaccines, Greenport, NY	UNIV. OF CT	486,296
	UNIV. OF MO	486,295
Aquaculture Fisheries Center, Stuttgart, AR	UNIV. OF AR, PINE BLUFF	341,470
Aquaculture Initiatives, Harbor Branch Oceanographic Institute, Stuttgart, AR	FLORIDA ATLANTIC UNIV., HARBOR BRANCH	436,710
Biomass Crop Production, Brookings, SD	SD STATE UNIV	277,577
	MBI INTERNATIONAL	203,000
Biotechnology Research and Development Center, Headquarters	BRDC	3,150,000
Crop Production and Food Processing, Peoria, IL	UNIV. OF IL	148,717
	PURDUE UNIV.	148,717
Center for Agroforestry, Booneville, AR, and Dale Bumpers Small Farms Research Center, Booneville, AR		
	UNIV. OF MO	1,550,000
Diet Nutrition and Obesity Research, New Orleans, LA	LOUISIANA STATE UNIV.	253,499
Endophyte Research, Booneville, AR	UNIV. OF AR	263,770
	UNIV. OF MO	268,675
	OR STATE UNIV.	268,675
Formosan Subterranean Termites Research, New Orleans, LA	NO MOSQUITO/TERMITE BRD	325,074
	UNIV. OF HI	131,136
	LOUISIANA STATE UNIV.	1,361,940
	UNIV. OF MS	50,000
	UNIV. OF FL	131,136
	TEXAS A&M UNIV.	131,136

Research Title	**Cooperator**	**Amount**
	LOUISIANA STATE UNIV.	150,000
	THE AUDUBON INSTITUTE	151,136
	LOUISIANA STATE UNIV.	50,000
Improved Crop Production Practices, Auburn, AL	ALABAMA A&M	34,341
	AUBURN UNIV.	528,700
	TUSKEGEE UNIV.	34,341
Lyme Disease, 4 Poster Project, Headquarters	YALE UNIV.	565,853
Mosquito Trapping Research/West Nile Virus, Gainesville, FL		
	CT AG. EXPT. STATION	604,300
National Bio and Agro Defense Facility, Manhattan, KS	KANSAS STATE UNIVERSITY	400,000
National Center for Agricultural Law, NAL, Beltsville, MD	UNIV. OF AR (School of Law)	
		576,828
National Corn to Ethanol Research Pilot Plant, Headquarters		
	SOUTHERN ILLINOIS UNIV.	312,195
Northern Great Plains Research Laboratory, Mandan, ND	ND STATE UNIV. - HETTINGER	50,000
Phytoestrogen Research, New Orleans, LA	TULANE UNIV.	634,907
	UNIV. OF TOLEDO	482,207
Termite Species in Hawaii, New Orleans, LA	UNIV. OF HI	175,500
Tropical Aquaculture Feeds (Oceanic Institute), Hilo, HI		
	OCEANIC INSTITUTE	921,171
Wild Rice, St. Paul, MN	UNIV. OF MN, NORTH CENTRAL RESEARCH & OUTREACH CENTER	155,000
TOTAL		**16,240,302**

New Research Projects

Mr. Kingston: Please provide a list of all research projects started in fiscal years 2010 and 2011. Also describe new projects proposed for fiscal year 2012 and 2013.

Response: Ten research projects were started in FY 2010: Arthropod-Borne Animal Diseases Research Laboratory ($1,500,000 at Manhattan, Kansas); Computer Vision Engineer ($400,000 at Kearneysville, West Virginia); Dairy Forage Research Center ($2,500,000 at the Marshfield, Wisconsin work site of Madison, Wisconsin); Forage Crop Stress Tolerance and Virus Disease Management ($200,000 at Prosser, Washington); Human Nutrition Research, Kannapolis, North Carolina ($1,000,000 at Headquarters); Livestock-Crop Rotation Management ($349,000 at University Park, Pennsylvania); National Bio and Agro Defense Facility ($1,500,000 at Manhattan, Kansas); Pacific Basin Agricultural Research Center Staffing ($700,000 at Hilo, Hawaii); Soybean Genomics ($200,000 in St. Paul, Minnesota); and Subtropical Beef Germplasm ($1,033,000 at Brooksville, Florida). However, these projects were terminated in accordance with P.L. 112-6. No new research projects have been started in FYs 2011 and 2012.

The FY 2013 budget includes a request for additional funding for the following high priority program initiatives: Crop/Animal Breeding and Protection; Food Safety; Human Nutrition; Production Systems for Sustainable Agriculture; and the National Agricultural Library.

Active Extramural Programs

Mr. Kingston: Please provide a list of all extramural programs and projects that were active in fiscal years 2010 and 2011. Were any extramural programs or projects started in fiscal year 2012?

Response: A list of all active extramural projects in FYs 2010 and 2011 are provided for the record. A list of all extramural projects started in fiscal year 2012 cannot be provided until after the close of the fiscal year.

[The information follows:]

United States Department of Agriculture
Agricultural Research Service

FY 2010 EXTRAMURAL PROJECTS

Cooperator	Extramural Amount
ABILENE CHRISTIAN UNIVERSITY	$5,000
AFRICAN INSECT SCI FOOD HEALTH	70,000
AGRICULTURAL RESEARCH COUNCIL	33,000
AGRICULTURE CANADA	42,900
AGRICULTURE DEVLPMNT GROUP, INC	27,632
AKWESASNE TASK FORCE/ENVIRONMENT	5,000
ALABAMA AGRI & MECH COLLEGE	70,341
ALCORN STATE UNIVERSITY	305,000
ALFRED STATE COLLEGE	132,000
AMERICAN ASSOCIATION OF BOTANICAL GARDENS & ABORETA	33,171
AMERICAN CHEMICAL SOCIETY	3,400
AMERICAN COAL ASH ASSOC. (ACAA)	2,000
AMERICAN COUNCIL FOOD SAFE & QUAL	18,000
AMERICAN INDIAN SCI & ENG SOCIETY	5,000
AMERICAN PHYTOPATHOLOGICAL SOCIETY	33,000
AMERICAN SOCIETY FOR NUTRITION	4,000
AOAC INTERNATIONAL	2,000
APPLIED BIOMICS, INC.	16,188
ARKANSAS CHILDREN'S HOSPITAL	6,922,550
ARKANSAS STATE UNIVERSITY	460,000
AUBURN UNIVERSITY	971,747
ARIZONA COTTON RES & PROTECTION COUNCIL	53,271
AZERBAIJAN NATL ACADEMY SCIENCES	12,340
BARD - BINATL AG RES DEVELP	5,000
BARRY LAVINE	5,000

Cooperator	Extramural Amount
BAYLOR COLLEGE OF MEDICINE	10,394,971
BEET SUGAR DEV FOUNDATION	16,050
BIOTECH & BIOLOG CONTROL AGENCY	191,900
BIOTECHNOLOGY FOUNDATION, INC.	97,561
BIOTECHNOLOGY RES & DEVELOP CNTR	3,150,000
BIOVERSITY INTERNATIONAL	90,679
BLUEWAVE MICROBICS, LLC	50,000
BOYCE THOMPSON INSTITUTE	226,000
BOYS, GIRLS, ADULTS COM. CTR	102,500
BRANDEIS UNIVERSITY	108,363
BRENT LARSON (FARMER)	4,000
CABI BIOSCIENCES, U.K.	10,000
CAPECO	180,000
CARRINGTON AGRIC EXPT STATION	67,439
CENTRO AGRON TROPICAL INVEST ENS	80,000
CHINESE ACADEMY OF AGRI SCIENCES	95,506
CHUNG-ANG UNIVERSITY	20,000
CIMMYT	78,049
CLASSIC CALADIUMS	12,000
CLEAR SPRING FOODS, INC.	30,000
CLEMSON UNIVERSITY	290,814
COLD SPRING HARBOR LABORATORY	113,436
COLORADO STATE UNIVERSITY	494,323
COLUMBIA BASIN COLLEGE	10,000
COLUMBIA UNIVERSITY	146,341
CONCELLAE, AB	10,000
CONNECTICUT AGRICULTURAL EXPERIM. STATION	833,568
CORNELL UNIVERSITY	2,552,567
COUNCIL FOR AGRIC SCI & TECH	20,000
CRYSTAL RIVER	20,000
CSIRO	759,628
DARREL M. TEMPLE	37,700
DEKALB CNTY SOIL&WTR CNSRV DIST	35,000
DELTA HEALTH ALLIANCE	25,000
DREXEL UNIVERSITY	10,000
EARLINE STRICKLAND	75,000
EMPIRE PROTOTYPE & PROD DEVEL	27,912
ENVIRONMENTAL RESOURCE COALITION	80,000
FARM FOUNDATION	7,000
FASEB	5,000
FED ASIAN PACIFIC AMER CNCL	25,000
FEDERAL UNIV SANTA MARIA	35,000
FLORIDA AGRI & MECH UNIVERSITY	44,000
FLORIDA ATLANTIC UNIVERSITY	436,710
FUNDACAO PAU BRASIL (FUNPAB)	25,000

Cooperator	**Extramural Amount**
GEISINGER CENTER	169,344
GEORGE MASON UNIVERSITY	70,000
GEOSYSTEMS RESEARCH INSTITUTE	5,000
GYEONGSANG NAT UNIV	40,000
HAWAII AGRIC RES CNTR	567,575
HONDURAN FOUNDATION FOR AG RES.	7,000
IICA	3,000
ILIA CHAVCHAVADZE ST UNIV	2,000
IMPERIAL VALLEY CONS RES CTR COM	180,820
INDIANA UNIVERISTY	63,631
INIAP	47,000
INIFAP	6,000
INRA ANIMAL GENETICS DIVISION	5,000
INST NACIONAL INVST TCNL..(INIA)	39,000
INSTITUTO DE CULTIVOS TROPICALES	117,000
INSTITUTO UNIEMP	35,200
INTERNATIONAL POTATO CENTER	4,500
INTL LIVESTOCK RESEARCH INST.	79,500
INT'L MAIZE & WHEAT IMPROVE CTR	95,200
IOWA STATE UNIVERSITY	413,585
J. CRAIG VENTER INSTITUTE, INC.	149,905
JOHNS HOPKINS UNIVERSITY	858,657
KANSAS STATE UNIVERSITY	2,202,406
KEARNEY HORT STATION	65,000
KYRGYZ NATL AGRARIAN UNIV	17,490
LOUISIANA STATE UNIV. AG. CENTER	1,876,439
LOUISIANA STATE UNIVERSITY	132,550
MARSHFIELD CLINIC RES FNDTION	16,000
MATERIALS RESEARCH SOCIETY	5,300
MBI INTERNATIONAL	203,000
MEDSTAR HEALTH RES INST	110,000
METHYL BROMIDE ALTERN. OUTREACH	20,000
MIAMI UNIVERSITY	75,000
MICHAEL FIELDS AGRICULTURAL INST	156,562
MICHIGAN STATE UNIVERSITY	833,726
MID-FLORIDA RESEARCH & EDUCATION	147,317
MILWAUKEE PUBLIC MUSEUM	60,500
MISSISSIPPI AGRI & FORESTRY EXP STATION	6,104,715
MISSISSIPPI STATE UNIVERSITY	2,096,728
MISSISSIPPI VALLEY STATE UNIV	11,276
MISSOURI BOTANICAL GARDEN	30,000
MONTANA STATE UNIVERSITY	41,914
MONTCROFT FARMS	5,000
MOUNTAIN STATE UNIVERSITY	46,100
N. AMER POLLINATOR PROTECT CAMP.	12,927

Cooperator	**Extramural Amount**
NASA GODDARD SPACE FLIGHT CENTER	30,000
NATIONAL CNTR FOR GENOME RESOURC	1,030,900
NATIONAL CNTR VET DIAGNOSTICS	39,000
NATIONAL COTTON COUNCIL	231,707
NATIONAL GENEBANK OF MOROCCO	4,000
NATL TURFGRASS EVAL PROG., INC.	8,000
NEW MEXICO STATE UNIVERSITY	521,348
NO MOSQUITO & TERMITE CONTROL BD	325,074
NORTH CAROLINA A&T STATE UNIVER.	2,000
NORTH CAROLINA AGRICULURAL EX ST	73,171
NORTH CAROLINA STATE UNIVERSITY	1,227,982
NORTH DAKOTA STATE UNIVERSITY	2,328,584
NORTHERN ILLINOIS UNIVERSITY	35,000
NTL NUTR DATABANK CONF STEER COM	5,000
OHIO STATE UNIVERSITY	607,088
OKLAHOMA STATE UNIVERSITY	427,909
OKLAHOMA WATER RESOURCES BOARD	78,100
OREGON STATE UNIVERSITY	1,777,692
PEERBOLT CROP MANAGEMENT	30,254
PENNINGTON BIOMEDICAL RES CENTER	405,000
PENNSYLVANIA STATE UNIVERSITY	665,172
PRACTICAL FARMERS OF IOWA	42,757
PUNJAB AGRICULTURAL UNIVERSITY	40,000
PURDUE UNIVERSITY	2,048,786
REESE CONSULTING, LTD	18,000
ROBERT A. LEFLAR LAW CENTER	576,828
RODALE INSTITUTE RESEARCH CENTER	248,219
ROTHAMSTED EXPERIMANTAL STATION	5,000
RUTGERS AGRI RES & EXTENSION CTR	667,734
RUTGERS UNIVERSITY	116,485
SE LOUISIANA UNIVERSITY	11,700
SERVICE SPECIALIST, LTD	400,000
SIMON FRASER UNIVERSITY	15,000
SMITH HELICOPTERS, INC	5,000
SOCIETY FOR RANGE MGMT	30,000
SOIL&WATER CONSERVATION SOCIETY	7,500
SOUTH DAKOTA STATE UNIVERSITY	621,898
SOUTHERN ILLINOIS UNIVERSITY	328,195
SOUTHERN UNIV & A&M COLLEGE	375,000
SPECTIR, LLC	20,000
STUDENT CONSERVATION ASSOCIATION	20,000
SULLIVAN ENVIR CONSULT, INC	73,000
TEL AVIV UNIVERSITY	9,000
TENNESSEE STATE UNIVERSITY	454,077
TENNESSEE TECHNOLOGICAL UNIV	10,800

Cooperator	Extramural Amount
TETRACAM COMPANY, INC.	5,000
TEXAS A&M UNIVERSITY	1,065,373
TEXAS AGRILIFE RES & EXT CNTR	102,707
TEXAS CHRISTIAN UNIVERSITY	20,000
TEXAS STATE UNIVERSITY	5,300
TEXAS TECH UNIVERSITY	403,452
THE AUDUBON INSTITUTE	151,136
THE CONSERVATION FUND	1,610,005
THE INSTITUTE FOR ANIMAL HEALTH	5,000
THE MORTON ARBORETUM	20,240
THE OCEANIC INST - MAKAPUU POINT	921,171
TRUMAN STATE UNIVERSITY	9,756
TUFTS UNIVERSITY	6,696,165
TULANE UNIVERSITY	634,907
TUSKEGEE UNIVERSITY	34,341
U.S. CIVILIAN RES & DEVEL FNDTN	14,000
UNIV. SCI & TECH OF CHINA	15,000
UNIVERSITY OF ALABAMA	55,000
UNIVERSITY OF ALASKA	1,087,256
UNIVERSITY OF ARIZONA	442,557
UNIVERSITY OF ARKANSAS	988,509
UNIVERSITY OF CALGARY	22,000
UNIVERSITY OF CALIFORNIA	3,763,539
UNIVERSITY OF CALIFORNIA COOP EXT - MERCED	40,015
UNIVERSITY OF CONNECTICUT	1,559,943
UNIVERSITY OF DELAWARE	211,390
UNIVERSITY OF FLORIDA	719,459
UNIVERSITY OF GEORGIA	348,691
UNIVERSITY OF HAWAII	1,868,544
UNIVERSITY OF IDAHO	737,718
UNIVERSITY OF ILLINOIS	1,473,798
UNIVERSITY OF IOWA	40,000
UNIVERSITY OF KENTUCKY	1,044,833
UNIVERSITY OF KENTUCKY RES FND	5,122
UNIVERSITY OF MARYLAND	1,238,755
UNIVERSITY OF MARYLAND EASTERN SHORE	7,000
UNIVERSITY OF MASSACHUSETTS	2,500
UNIVERSITY OF MINNESOTA	1,244,361
UNIVERSITY OF MISSISSIPPI	4,808,772
UNIVERSITY OF MISSOURI	2,681,201
UNIVERSITY OF NEBRASKA	1,582,975
UNIVERSITY OF NEVADA	106,360
UNIVERSITY OF NORTH CAROLINA	9,600
UNIVERSITY OF NORTH DAKOTA	2,725,000
UNIVERSITY OF NORTH TEXAS	82,593

Cooperator	Extramural Amount
UNIVERSITY OF OKLAHOMA	25,000
UNIVERSITY OF OREGON	15,000
UNIVERSITY OF PENNSYLVANIA	38,680
UNIVERSITY OF PITTSBURGH	10,000
UNIVERSITY OF PUERTO RICO (MAYAGUEZ)	35,987
UNIVERSITY OF READING	122,500
UNIVERSITY OF RHODE ISLAND	106,680
UNIVERSITY OF SASKATCHEWAN	7,000
UNIVERSITY OF SOUTHERN MISSISSIPPI	100,000
UNIVERSITY OF TENNESSEE	712,657
UNIVERSITY OF TEXAS MEDICAL BRANCH	25,199
UNIVERSITY OF TOLEDO	810,494
UNIVERSITY OF VERMONT	54,500
UNIVERSITY OF WASHINGTON	332,205
UNIVERSITY OF WEST INDIES	40,000
UNIVERSITY OF WISCONSIN	1,757,097
UNIVERSITY OF WYOMING	138,450
UPPER MIDWEST AEROSPACE CONSORT.	1,000
UTAH STATE UNIV. SPACE DYNAMICS LAB	540,000
UTAH STATE UNIVERSITY	431,468
VIRGINIA POLY INST & STATE UNIV	1,035,719
WASHINGTON STATE UNIVERSITY	1,544,804
WASHINGTON UNIVERSITY	32,164
WEST TEXAS A&M UNIVERSITY	171,560
WEST VIRGINIA STATE UNIVERSITY	98,043
WEST VIRGINIA UNIVERSITY	1,038,312
WESTERN KENTUCKY UNIVERSITY	865,865
WILLIAM CAREY UNIVERSITY	9,878
WORLD FOOD PRIZE FOUNDATION	31,000
WUHAN BOTANICAL GARDEN	6,000
XAVIER UNIVERSITY	1,000
YALE UNIVERSITY	565,853
TOTAL	**114,903,543**

United States Department of Agriculture
Agricultural Research Service

FY 2011 EXTRAMURAL PROJECTS

Cooperator	Extramural Amount
AFRICAN INSECT SCI FOOD HEALTH	50,000
AGRIC UNIV OF TIRANA	5,900
AGRICULTURE CANADA	43,333
ALABAMA AGRI & MECH COLLEGE	19,512
ALCORN STATE UNIVERSITY	342,000

Cooperator	Extramural Amount
ALLIANCE COAL, LLC	25,000
AMER BIOL SAFE ASSC	4,000
AMERICAN ASSOCIATION OF BOTANICAL GARDENS & ABORETA	48,781
ARIZONA COTTON RES & PROTECTION COUNCIL	30,000
ARIZONA STATE UNIVERSITY	30,000
ARKANSAS CHILDREN'S HOSPITAL	6,592,000
ARKANSAS STATE UNIVERSITY	100,000
ASOMBRO INST SCI EDUCATION	10,000
ATATURK UNIVERSITY	15,000
AUBURN UNIVERSITY	289,100
AZERBAIJAN NATL ACADEMY SCIENCES	4,000
BARRY LAVINE	7,075
BAYLOR COLLEGE OF MEDICINE	9,992,000
BEET SUGAR DEV FOUNDATION	15,850
BEN GURION UNIV	24,390
BENT CREEK INSTITUTE INC.	4,910
BIOTECH & BIOLOG CONTROL AGENCY	136,800
BIOVERSITY INTERNATIONAL	41,746
BLUEWAVE MICROBICS, LLC	30,000
BOYCE THOMPSON INSTITUTE	438,612
BOYS, GIRLS, ADULTS COM. CTR	25,000
BRANDEIS UNIVERSITY	108,826
BRENT LARSON (FARMER)	4,000
CABI BIOSCIENCES, U.K.	15,638
CANKDESKA CIKANA COMM COLLEGE	1,000
CAPECO	70,500
CARRINGTON AGRIC EXPT STATION	58,005
CARY CHRISTIAN CENTER, INC.	1,938
CENTRO AGRON TROPICAL INVEST ENS	33,959
CHINESE ACADEMY OF AGRI SCIENCES	91,327
CIMMYT	83,049
CLEMSON UNIVERSITY	270,791
COLBY COLLEGE	4,000
COLD SPRING HARBOR LABORATORY	268,198
COLORADO STATE UNIVERSITY	486,707
COLUMBIA BASIN COLLEGE	10,000
CONF ASIAN PACIFIC AMER LDRSHP	10,000
CONNECTICUT AGRICULTURAL EXPERIM. STATION	198,049
CORNELL UNIVERSITY	2,055,373
COTTON INCORPORATED	50,000
COUNCIL FOR AGRIC SCI & TECH	20,000
CROW VALLEY LIVESTOCK COOP INC	190,000
CRYSTAL RIVER	10,000
CSIRO	236,558
DARREL M. TEMPLE	43,000

Cooperator	**Extramural Amount**
DEKALB CNTY SOIL&WTR CNSRV DIST	50,000
DELTA HEALTH ALLIANCE	383,463
EASTERN MENNONITE UNIVERSITY	51,000
FLORAGENEX, INC.	100,000
FORT VALLEY STATE COLLEGE	6,300
FUNDACAO PAU BRASIL (FUNPAB)	30,000
GEISINGER CENTER	167,130
GEORGE MASON UNIVERSITY	30,000
GRAND FORKS PARK DISTRICT	60,000
HAWAII AGRIC RES CNTR	380,072
HEILONGJIANG ACADEMY AG SCI	7,000
ICG SERVICES LC	4,000
ILIA CHAVCHAVADZE ST UNIV	10,860
INIAP	40,000
INRA-VERSAILLES	15,000
INST NAC DE TECHNOL AGROPECUARIA	17,897
INST NACTIONAL TECNOL AGROP	5,000
INSTITUTO DE CULTIVOS TROPICALES	130,000
INSTITUTO DI VIROLOGIA VEGETALE	2,160
INSTITUTO UNIEMP	21,450
INTL ALLIANCE BIOL STDRZ (IABS)	1,000
INTL INST TROPICAL AGRICULTURE	10,000
IOWA STATE UNIVERSITY	260,561
J. CRAIG VENTER INSTITUTE, INC.	20,000
JUST FOOD, INC.	4,900
KANSAS STATE UNIVERSITY	1,934,415
KEARNEY HORT STATION	65,000
KENT STATE UNIVERSITY	13,650
LOUISIANA STATE UNIV. AG. CENTER	50,000
LOUISIANA STATE UNIVERSITY	136,299
MAKERERE UNIVERSITY	82,925
MARYLAND DEPT OF AGRICULTURE	8,218
METHYL BROMIDE ALTERN. OUTREACH	40,000
MIAMI UNIVERSITY	87,518
MICHAEL FIELDS AGRICULTURAL INST	154,527
MICHIGAN STATE UNIVERSITY	764,607
MID-FLORIDA RESEARCH & EDUCATION	147,317
MISS AGRI & FORESTRY EXP STATION	6,026,547
MISSISSIPPI STATE UNIVERSITY	2,025,121
MISSISSIPPI VALLEY STATE UNIV	65,000
MONTANA STATE UNIVERSITY	12,340
NATIONAL CNTR FOR GENOME RESOURC	980,050
NATIONAL COTTON COUNCIL	152,129
NATL TURFGRASS EVAL PROG., INC.	30,000
NEVADA TAHOE CONSERV DISTRICT	4,100

Cooperator	**Extramural Amount**
NEW EARTH	35,000
NEW MEXICO STATE UNIVERSITY	262,574
NORTH CAROLINA AG RES SERV (NCARS)	25,000
NORTH CAROLINA AGRICULURAL EX ST	73,171
NORTH CAROLINA STATE UNIVERSITY	451,842
NORTH DAKOTA STATE UNIVERSITY	2,178,992
NORTHERN ILLINOIS UNIVERSITY	10,000
OHIO STATE UNIV. RES. FOUNDATION	13,500
OHIO STATE UNIVERSITY	688,700
OKLAHOMA STATE UNIVERSITY	409,270
OKLAHOMA WATER RESOURCES BOARD	78,000
ONDOKUZ MAYIS UNIVERSITY	2,000
OREGON STATE UNIVERSITY	1,167,663
PEERBOLT CROP MANAGEMENT	28,132
PENNINGTON BIOMEDICAL RES CENTER	341,000
PENNSYLVANIA STATE UNIVERSITY	346,045
POLLINATOR PARTNERSHIP	10,000
PRACTICAL FARMERS OF IOWA	44,801
PURDUE UNIVERSITY	1,944,796
RODALE INSTITUTE RESEARCH CENTER	60,000
ROTHAMSTED EXPERIMENTAL STATION	5,000
RUTGERS AGRI RES & EXTENSION CTR	637,582
RUTGERS UNIVERSITY	149,184
SALINAS VALLEY SOLID WASTE AUTH	66,000
SAMUEL ROBERTS NOBLE FOUNDATION	32,000
SERVICE SPECIALIST, LTD	500,000
SOIL&WATER CONSERVATION SOCIETY	20,000
SOUTH DAKOTA STATE UNIVERSITY	351,652
SOUTHERN ILLINOIS UNIVERSITY	7,500
SOUTHERN UNIV & A&M COLLEGE	287,000
SPECTRUM RESEARCH INC.	7,000
STEPHEN F AUSTIN STATE UNIV	2,000
STUDENT CONSERVATION ASSOCIATION	8,608
TEL AVIV UNIVERSITY	9,000
TENNESSEE STATE UNIVERSITY	440,222
TEXAS A&M UNIVERSITY	713,268
TEXAS A&M UNIV-KINGSVILLE CITRUS	74,000
TEXAS AGRILIFE RES & EXT CNTR	116,622
TEXAS TECH UNIVERSITY	473,895
THE CONSERVATION FUND	1,589,474
THE MITRE CORPORATION	5,000
THE MORTON ARBORETUM	20,260
TOWSON UNIVERSITY	50,000
TRUMAN STATE UNIVERSITY	8,780
TUFTS UNIVERSITY	6,864,974

Cooperator	Extramural Amount
TULANE UNIVERSITY	27,500
TUSKEGEE UNIVERSITY	10,000
UMBRELLA ASSC GERMAN PIG PROD	4,000
UNIVERSITY OF AKRON	600
UNIVERSITY OF ALASKA	1,477,773
UNIVERSITY OF ARIZONA	346,170
UNIVERSITY OF ARKANSAS	113,349
UNIVERSITY OF AUCKLAND	3,787
UNIVERSITY OF CALIFORNIA	3,961,812
UNIVERSITY OF CAMBRIDGE	150,027
UNIVERSITY OF CONNECTICUT	603,706
UNIVERSITY OF DELAWARE	74,000
UNIVERSITY OF FLORIDA	753,773
UNIVERSITY OF GEORGIA	144,250
UNIVERSITY OF HAWAII	1,084,560
UNIVERSITY OF IDAHO	621,491
UNIVERSITY OF ILLINOIS	979,298
UNIVERSITY OF IOWA	86,999
UNIVERSITY OF KENTUCKY	1,030,334
UNIVERSITY OF KENTUCKY RES FND	8,940
UNIVERSITY OF LOUISIANA @ LAFAYETTE	1,000
UNIVERSITY OF LOUISVILLE	5,509
UNIVERSITY OF MAINE	11,548
UNIVERSITY OF MARYLAND	1,499,065
UNIVERSITY OF MARYLAND EASTERN SHORE	472,405
UNIVERSITY OF MASSACHUSETTS	155,119
UNIVERSITY OF MINNESOTA	956,757
UNIVERSITY OF MISSISSIPPI	4,567,316
UNIVERSITY OF MISSOURI	372,023
UNIVERSITY OF NEBRASKA	1,543,021
UNIVERSITY OF NEVADA	146,250
UNIVERSITY OF NEW MEXICO	30,000
UNIVERSITY OF NORTH DAKOTA	2,217,043
UNIVERSITY OF NORTH TEXAS	58,537
UNIVERSITY OF PITTSBURGH	5,000
UNIVERSITY OF PUERTO RICO	67,692
UNIVERSITY OF READING	156,265
UNIVERSITY OF RHODE ISLAND	259,971
UNIVERSITY OF SOUTHERN MISSISSIPPI	385,000
UNIVERSITY OF TENNESSEE	599,709
UNIVERSITY OF TOLEDO	304,403
UNIVERSITY OF UTAH	42,000
UNIVERSITY OF VERMONT	48,213
UNIVERSITY OF WASHINGTON	327,279
UNIVERSITY OF WISCONSIN	1,778,732

Cooperator	**Extramural Amount**
UNIVERSITY OF WYOMING	39,000
US ARMY MED INST OF INFECT DIS	110,000
UTAH STATE UNIV. SPACE DYNAMICS LAB	485,000
UTAH STATE UNIVERSITY	519,805
VIRGINIA POLY INST & STATE UNIV	1,170,844
WASHINGTON STATE UNIVERSITY	1,213,393
WEST TEXAS A&M UNIVERSITY	238,162
WEST VIRGINIA STATE UNIVERSITY	44,689
WEST VIRGINIA UNIVERSITY	994,021
WESTERN KENTUCKY UNIVERSITY	810,988
WORLD FOOD PRIZE FOUNDATION	35,000
WUHAN BOTANICAL GARDEN	32,780
TOTAL	**$91,028,899**

Cooperative Agreements with State Institutions

Mr. Kingston: Please provide a list of cooperative agreements with state institutions, including funding, for fiscal years 2009 through 2011 and estimated for 2012 and 2013.

Response: There were five cooperative agreements existed with state institutions in FY 2009: Arizona Cotton Research & Protection Council, Tempe, Arizona ($53,303); Connecticut Agricultural Experiment Station, New Haven, Connecticut ($748,568); Milwaukee Public Museum, Milwaukee, Wisconsin ($90,000); New Orleans Mosquito & Termite Control Board, New Orleans, Louisiana ($350,074); and Oklahoma Water Resources Board, Oklahoma City, Oklahoma ($45,450).

In FY 2010, five cooperative agreements existed with state institutions: Arizona Cotton Research & Protection Council, Tempe, Arizona ($53,271); Connecticut Agricultural Experiment Station, New Haven, Connecticut ($833,568); Milwaukee Public Museum, Milwaukee, Wisconsin ($60,500); New Orleans Mosquito & Termite Control Board, New Orleans, Louisiana ($325,074); and Oklahoma Water Resources Board, Oklahoma City, Oklahoma ($78,100).

In FY 2011, four cooperative agreements existed with state institutions: Arizona Cotton Research & Protection Council, Tempe, Arizona ($30,000); Connecticut Agricultural Experiment Station, New Haven, Connecticut ($198,048); Maryland Department of Agriculture, Annapolis, Maryland ($8,218); and Oklahoma Water Resources Board, Oklahoma City, Oklahoma ($78,000). No new cooperative agreements have been proposed for FYs 2012 and 2013.

ARS Facility Maintenance

Mr. Kingston: Please provide the total amount needed to address maintenance needs. What are the top ten highest priorities?

Response: ARS contracted with a vendor to review facility conditions. To date, the vendor has inspected a sample of representative buildings from thirty six ARS locations (roughly 55 percent of the total inventory) and used parametric models to estimate deferred maintenance for the remaining building inventory. Total deferred maintenance for ARS buildings is $279 million. This list does not include new and replacement facilities projects awaiting full funding. Nor does it incorporate $172 million of critical deferred maintenance work currently under construction (many projects are currently being completed) and funded by the American Recovery and Reinvestment Act. Deferred maintenance is defined as the amount necessary to ensure that a construction asset is restored to a condition substantially equivalent to the originally intended and designed capacity, efficiency, or capability. The current deferred maintenance amount is currently under its annual review and revision. The top ten projects that address health, safety, and critical infrastructure issues at facilities that support high priority research are provided for the record.

[The information follows:]

Facility/Project	**City, State**	**Cost In Millions**
Foreign Disease Weed Science Research Laboratory, Replace Mechanical and Electrical Systems and Skin of Containment Greenhouses	Frederick, MD	$10.0
Richard B. Russell Research Center, Replace the main chiller and boilers and piping systems and replaces the HVAC system on one floor with one that complies with current standards.	Athens, GA	15.0
United States National Arboretum, Repair and Replace Domestic Waterlines	Washington, DC	5.0
Beltsville Agricultural Research Center, Repair and Replace Steam and Condensate Distribution Piping.	Beltsville, MD	10.0
United States Meat Animal Research Center, Major Electrical Infrastructure Modernization	Clay Center, NE	3.5
National Agricultural Library, Installation of Sprinkler System - Stack Floors	Beltsville, MD	1.0
Beltsville Agricultural Research Center, Upgrade Electrical Substation	Beltsville, MD	6.0
National Agricultural Library, Replace Fire Alarm System	Beltsville, MD	2.1
United States National Arboretum, Repair and Replace Sanitary Lines	Washington, DC	7.5
Red River Valley Agricultural Research Center, Laboratory Modernization	Fargo, ND	3.9
Total		**64.0**

ARS Aircraft

Mr. Kingston: Please update the committee on the number and type of aircraft currently owned and leased by ARS.

Response: The Agricultural Research Service owns seven aircraft, of which one is not operational and is used for parts. The aircraft are located at College Station, Texas and Moore Air Base in Mission, Texas. The two aircraft located at Moore Air Base are housed with APHIS. These aircraft were previously located in Weslaco, Texas. The information is provided for the record.

1979 Cessna Aircraft Company 188C, Tail Number: N2182J
1996 Air Tractor 402B, Tail Number: N38HT
1967 Bell Helicopter U206B, Tail Number: N616
*1998 McDonnell Douglas Aircraft MD-600N N605BP
*1998 McDonnell Douglas Aircraft MD-600N N604BP(non-operational)
1977 Cessna Aircraft Company 404, Tail Number: N306SK
1978 Cessna Aircraft Company TU206G, Tail Number: N756NN
* Acquired since last year

National Arboretum

Mr. Kingston: Please update the information provided in the fiscal year 2012 hearing record regarding the budget for the National Arboretum for fiscal years 2009 through 2011 and estimated for 2012 and 2013.

Response: The ARS budget for the National Arboretum is as follows: FY 2009, $11,498,000; FY 2010, $11,535,000; FY 2011, $11,413,000; FY 2012, $11,413,000; and FY 2013, $11,413,000 (estimated).

NAL

Mr. Kingston: Please update the information provided in the fiscal year 2012 hearing record regarding the budget for the National Agricultural Library for fiscal years 2009 through 2011 and estimated for 2012 and 2013.

Response: The budget for the National Agricultural Library is as follows: FY 2009, $22,697,000; FY 2010, $23,088,000; FY 2011, $22,195,000; FY 2012, $21,772,000; and FY 2013, $21,815,000 (estimated). Totals include funding for Repair and Maintenance, which are $853,000 in FY 2012 and FY 2013.

Aflatoxin

Mr. Kingston: Please provide a summary of ARS research on aflatoxin, including funding, major projects, recipients and location of recipients, for fiscal years 2009 through 2012. Also describe ARS's plan for fiscal year 2013.

Response: ARS conducts aflatoxin research at Maricopa, Arizona; Albany, California; Dawson and Tifton, Georgia; Peoria, Illinois; New Orleans, Louisiana; Mississippi State, Mississippi; and Stoneville, Mississippi. Research focuses on the development of detection and characterization technologies for *Aspergillus* strains and their related toxins, reducing aflatoxin levels by biological control, and development of genetic resistance. Projects within the food safety program examine chemical, environmental, and ecological approaches to eliminate fungal contamination and mycotoxin production in plant products; reducing aflatoxin contamination using biological control and crop management; control of aflatoxin production by targeting aflatoxin biosynthesis; developing resistance to aflatoxin through genetics and plant breeding; and improvement of biological control fungi for reduction of aflatoxin contamination. A new target for control of agricultural fungal pathogens has been identified. This target involves use of compounds that disrupt the mitochondrial respiratory complex. Several fungi that can be cultured have been identified that can completely degrade aflatoxin. Development of aflatoxin degrading technology could have some industrial application which would have a major impact on food safety and economic value of food commodities germane to the problem of aflatoxin contamination. Research has discovered how to prevent aflatoxin production with safe, common natural chemicals. These compounds work in the fungus by turning off the aflatoxin biosynthetic machinery of the fungus. In short, the compounds trick the fungus into believing that it does not need to produce aflatoxin, which the fungi produce to protect themselves from chemical attacks from plants. This work should help in devising methods of breeding crop plants to prevent aflatoxin contamination. It also provides significant insights on how to control the genes that trigger biosynthesis of aflatoxins.

In 2013, research will continue with a major emphasis on the use of non-toxigenic strains for biological control. Biological control is the leading tool for prevention of aflatoxin contamination of maize, peanut, cottonseed, and pistachio in commercial agriculture in the United States. The results of the proposed work will support development of optimized biological control methodologies which will further development, optimization, and expansion of biocontrol in the United States and parts of Africa and in so doing provide the opportunity to reduce both aflatoxin-related losses and the costs of aflatoxin management. Research will also continue on developing corn and peanut germplasm with resistance to aflatoxin accumulation along with identifying DNA markers to accelerate genetic selection.

Funding for ARS research activities related to aflatoxin is as follows: FY 2009, $14,223,000; FY 2010, $14,498,000; FY 2011, $14,615,000; FY 2012, $14,615,000; and FY 2013, $14,121,000 (estimated).

Office of Pest Management Policy

Mr. Kingston: Please update the committee on staffing and expenditures for the Office of Pest Management Policy for fiscal years 2009 through 2012. What are the plans for the office for fiscal year 2013?

Response: Funding for the USDA Office of Pest Management Policy (OPMP) is as follows: FY 2009, $1,686,000; FY 2010, $1,712,000; and FYs 2011 through 2013, $1,647,000. Salary and expenses for nine staff are supported with this level of funding, along with limited additional funds from the USDA Advisory Committee on Biotechnology and 21st Century Agriculture, which receives staff support from OPMP. Specific needs for FY 2013 are covered by continued salary and expense support. OPMP continues to work with the Environmental Protection Agency, USDA agencies, National Marine Fisheries Service (NMFS), numerous other Federal agencies, and agricultural producers to ensure the development and use of high-quality agricultural information and data for pesticide risk assessment and risk mitigation, and for threatened and endangered species biological opinions. OPMP continues to represent and support the interests of growers for USDA at the Meeting of the Parties of the Montreal Protocol and related meetings (all international meetings and in remote and/or expensive locations). Methyl bromide, an important and effective fumigant, is being phased out under this treaty; however, growers may request the use where there are no technical or economically feasible alternatives to this fumigant. Additional challenges have surfaced as approved alternatives have been removed or been proposed to be removed from the market, leaving U.S. agriculture vulnerable without an adequate fumigant. OPMP is providing leadership in conjunction with ARS on issues related to pollinators, which is gaining national attention as more studies related to pollinator issues are published. OPMP, in conjunction with the four USDA Integrated Pest Management Centers, also works with growers to develop and implement plans to transition to more effective and lower-risk pest management tactics. This effort has become increasingly important as EPA continues its implementation of the Food Quality Protection Act through pesticide registration review. In addition, OPMP is responsible for the interagency coordination, stakeholder outreach, and planning and development for the National Plant Disease Recovery System required by Homeland Security Presidential Directive #9. OPMP is also the technical lead for comments by USDA agencies for interagency review requests from EPA and the State Department for numerous toxic substances related to agriculture.

Congressionally Designated Projects

Mr. Kingston: Please provide a list of congressionally designated projects that are currently active, including the funding associated with each.

Response: As a result of the implementation of P.L. 112-6, there are no congressionally designated projects for the Agricultural Research Service.

Lab and Facility Closure Costs

Mr. Kingston: The fiscal year 2012 agriculture appropriations conference report agreed with the ARS proposal to close 12 laboratories and facilities. Please provide a description of the costs associated with the closures and update the Committee on the status of the closures.

Response: Research activities at the 12 laboratories have ceased. The termination of these activities affected 233 permanent ARS employees. All affected employees were offered alternative placement opportunities in vacant positions not impacted by the closures. Employees accepting reassignment must report to new positions by June 18, 2012.

The one-time costs associated with the relocation or separation of affected personnel and the disposal of property are estimated at $39 million in FY 2012. These one-time costs are being financed by reductions to remaining ARS programs. To obtain the necessary funds on a one-time basis in FY 2012, ARS is assessing the funding of all remaining research programs.

Public Law 112-55 granted the Secretary of Agriculture the authority to convey the facilities associated with the closure of the 12 ARS laboratories to land grant institutions, 1994 Institutions, and Hispanic-serving agricultural colleges and universities in the same state as the property if the institution agrees to maintain the facility for agricultural and natural resources research for a minimum of 25 years. USDA has asked all eligible institutions who are interested in acquiring the associated real property assets to submit an application with a variety of information including how the facility will be operating in the future and the extent the proposed use of the facility continues the strategic goals of USDA.

In the event that another USDA agency expresses a mission need for one of these properties, that agency will be given priority over any nongovernmental recipient.

Corn Advisory Committee

Mr. Kingston: Does ARS have a Corn Advisory Committee? What is the status of the committee? Who serves on it? What is its role? How long has it been in existence?

Response: The ARS does not have a Corn Advisory Committee. The Agency does receive technical input regarding its maize (i.e., corn) research from several technical committees and through periodic customer/stakeholder workshops. Technical input from these committees and workshops contributes strongly to maize research project planning, implementation, and evaluation.

ARS National Research Programs benefit from periodic customer-stakeholder workshops where customers and stakeholders communicate their research needs for the next 5 years, and describe emerging opportunities for research progress. Participants develop an understanding of the relevance, quality and overall impact of the National Program during the past 5 years, identify current strengths and weaknesses and make suggestions for improvement during the next 5 years. The most recent National Program Workshop, held in November 2011, covered National Program 301 (Plant Genetic Resources, Genomics, and Genetic Improvement). Participants included several private-sector and university maize researchers, and a representative of the National Corn Growers Association. These representatives served voluntarily and without remuneration.

ARS Facility and Capital Improvement

Mr. Kingston: When can the Committee expect to receive the report requested in the fiscal year 2012 agriculture appropriations conference report regarding ARS facilities and capital improvement needs?

Response: ARS has completed a capital investment strategy for recapitalization and new research facilities based on facility condition, needs, and research program priorities. The report's recommendations and overall strategy will inform and support the development of Administration budget requests for ARS research facilities in the out years. The report is currently in the process of being cleared by USDA and will be forwarded to the Committee when finalized.

Sodium Research

Mr. Kingston: The Institute of Medicine has recommended that the Food and Drug Administration set national guidelines for the sodium content in food. Congress has asked the Institute of Medicine for recommendations as well. What work has ARS done regarding sodium? Given the state of the science today on sodium are national guidelines (setting sodium content limits in foods) a reasonable policy response? We always hear that we get too much sodium, but what about those people who lack sodium?

Response: The primary involvement of ARS with effort to reduce sodium has been to monitor concentrations in the food supply. ARS is doing this in collaboration with the Centers for Disease Control and Prevention (CDC). ARS has two programs that maintain surveillance of the nutrient intake of Americans and the nutritional composition of commonly consumed foods.

In partnership with the CDC, ARS is developing a system to monitor the amount of sodium at the brand level in restaurant and processed foods that are selected on the basis of sales data. These foods ("sentinel foods") serve as indicators of sodium in the food supply. Information used to develop this list comes from the ARS Food Surveys Research Group (FSRG), which in collaboration with the CDC, conducts a survey to estimate the nutrient intake of Americans (What We Eat In America-National Health And Nutrition Examination Survey - WWEIA-NHANES). Sodium is one of the nutrients that is estimated in a national sample of 5,000 individuals of all ages.

ARS and CDC have identified 130 sentinel foods, and using funding obtained in part from CDC, these foods are being analyzed for sodium (approximately 90 have been analyzed at the present time). Results of these analyses are used to help develop the USDA National Nutrient Database for Standard Reference. This is a dietary database maintained by the Nutrient Data Laboratory (NDL) of ARS, and it forms the basis for other nutrient databases as well as for development of nutrition label information and nutrient claims by manufacturers.

The national course of action regarding sodium in the food supply is being led by the Food and Drug Administration (FDA). The FDA has set a careful and deliberate course that we believe will result in an approach that safeguards the health of Americans without imposing an undue burden on the food industry. This course of action has included a series of public meetings to which ARS was invited and sent representation. ARS will continue to be involved in this process.

The current FDA approach does not mandate a reduction in sodium in all products; instead it is presently a voluntary effort. If it remains a voluntary effort, the consumer will continue to have a choice between products with normal levels of sodium and products with low levels of sodium. Consequently, the present approach does not pose a problem to the U.S. consumer; however, a mandatory reduction in sodium in all products might pose a risk to some. This issue should continue to be monitored.

Germplasm Enhancement of Maize Project - GEM

Mr. Kingston: Please provide a summary of the Germplasm Enhancement of Maize project, including funding, partners, purposes, and accomplishments and the plan for fiscal year 2013.

Response: In addition to ARS, GEM Project partners (termed "cooperators") currently include 27 U.S. private-sector seed or crop breeding companies, 13 U.S. land grant universities, 1 U.S. nongovernmental organization, 12 international private-sector seed or crop breeding companies, and 5 international public-sector cooperators.

The GEM project is an ARS partnership with public-sector and private-industry researchers that has the primary purpose of developing commercially competitive maize hybrids containing exotic germplasm. Under this cooperative effort, seed companies cross their top maize lines with promising exotic sources and send the resulting hybrids to public-sector and industry researchers to test and breed for disease resistance, tolerance to environmental extremes, product quality, and yield.

Maize hybrids in the United States have a very narrow genetic base. Most U.S. hybrids are derived from just a few inbred lines, leaving them vulnerable to pests, diseases, and weather damage, which in turn might constitute a risk to food security. The narrow germplasm base also might limit the ability to increase nutritional and end-product quality—such as protein and oil content and starch properties—through genetic enhancement. Maize breeders want a broader genetic base, but adapting exotic strains to U.S. conditions is slow and costly. GEM meets the needs of U.S. maize producers by facilitating the integration of exotic material through cooperative public and private sector research.

The GEM Project's accomplishments include identifying maize lines with unique starch, protein, and oil properties; drought stress-tolerance; and outstanding silage productivity. Overall, this new germplasm might contribute to the development of new commercial hybrids with more diverse genetic resistance to diseases and pests, as well as other valuable new traits. GEM lines with superior performance are formally released (245 lines to date) and distributed freely by ARS to maize researchers worldwide. GEM cooperators from private companies have already begun using GEM germplasm in their proprietary breeding programs. Recently, the GEM Project has incorporated an ever broader spectrum of maize genetic diversity into its breeding efforts. It has also begun to apply new doubled haploid technology to develop inbred lines much more rapidly, and to incorporate into breeding lines new sources of host-plant resistance to diseases.

Maize researchers/breeders have effectively leveraged GEM Project resources to secure additional funding for research and to support student training. Fifteen students whose research projects were supported partially by GEM funding are currently employed by the U.S. seed or food industry, and 10 are employed by the public sector. In total, 16 doctoral and 11 master's students have completed their degree research thanks to partial funding from the GEM Project.

For FY 2013, the GEM Project will continue the preceding maize germplasm enhancement research and training efforts to the extent that funding levels permit. Specific activities will include identification of new, non-U.S. germplasm sources of potentially valuable genes for maize genetic improvement; conducting yield trials, field evaluations for agronomic merit, host-plant resistance to major maize diseases, and tolerance to environmental stresses; and development of new breeding crosses and lines via traditional approaches and doubled haploid technology. The training of 12 doctoral and 10 master's students partially supported by the GEM Project will continue.

Funding for ARS research activities related to the Germplasm Enhancement of Maize project is as follows: FY 2009, $1,562,000; FY 2010, $1,588,000; FY 2011, $1,585,000; FY 2012, $1,585,000; and FY 2013, $1,585,000 (estimated).

National Institute of Food and Agriculture

Hatch Act

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing the allocation of Hatch Act funding per university for fiscal years 2010 through 2013 (estimate). Include the number of personnel supported by the funding for the most recent year the information is available.

Response: Recipients of Hatch Act funds have the flexibility to distribute funds among research projects, infrastructure, and personnel as they wish to meet the needs of their university. The distribution of these dollars varies from state to state. The latest data on personnel supported with Hatch Act funds as reported in the Current Research Information System (CRIS) by recipient institutions is for FY 2010. The recipient institutions do not assemble the data until the close of the fiscal year and then the reporting process requires approximately 6 additional months. Fiscal year 2011 data are being collected now, but not all institutions have made their reports available yet. Therefore, we do not have complete data for FY 2011 at this time. Fiscal year 2010 personnel data as reported by the institutions are provided for the record. Award decisions have not been finalized for FY 2013, but will subtotal $221,781,000, with an additional $6,154,000 for Small Business Innovation Research and $6,899,000 for Federal Administration, for a total of $234,834,000 for the Hatch program.

[The information follows:]

	FY2010	FY2011	FY2012
Auburn University	$4,554,000	$5,019,000	$5,018,000
University of Alaska	1,128,000	1,245,000	1,243,000
American Samoa Community College	824,000	906,000	904,000
University of Arizona	2,231,000	2,478,000	2,473,000
University of Arkansas	3,850,000	4,236,000	4,229,000
University of California	5,998,000	6,739,000	6,721,000
Colorado State University	3,058,000	3,403,000	3,397,000
University of Connecticut New Haven	886,000	966,000	964,000
University of Connecticut Storrs	1,144,000	1,251,000	1,248,000
University of Delaware	1,461,000	1,608,000	1,605,000
University of District of Columbia	798,000	888,000	886,000
University of Florida	3,435,000	3,913,000	3,913,000
University of Georgia	5,483,000	6,014,000	6,006,000
University of Guam	977,000	1,079,000	1,077,000
University of Hawaii	1,459,000	1,605,000	1,603,000
University of Idaho	2,423,000	2,691,000	2,686,000
University of Illinois	6,216,000	6,806,000	6,796,000
Purdue University	5,678,000	6,268,000	6,258,000
Iowa State University	6,872,000	7,627,000	7,597,000
Kansas State University	3,900,000	4,319,000	4,312,000
University of Kentucky	5,734,000	6,498,000	6,492,000
Louisiana State University	3,539,000	3,874,000	3,868,000

	FY2010	FY2011	FY2012
University of Maine	2,111,000	2,345,000	2,340,000
University of Maryland	2,765,000	3,038,000	3,032,000
University of Massachusetts	2,446,000	2,666,000	2,661,000
Michigan State University	5,839,000	6,442,000	6,437,000
College of Micronesia	858,000	949,000	948,000
University of Minnesota	5,670,000	6,277,000	6,267,000
Mississippi State University	4,462,000	4,870,000	4,863,000
University of Missouri	5,455,000	6,061,000	6,051,000
Montana State University	2,430,000	2,707,000	2,702,000
University of Nebraska	3,829,000	4,239,000	4,232,000
University of Nevada	1,383,000	1,529,000	1,527,000
University of New Hampshire	1,654,000	1,833,000	1,829,000
Rutgers University	3,048,000	3,288,000	3,332,000
New Mexico State University	1,852,000	2,052,000	2,049,000
Cornell University	5,113,000	5,686,000	5,676,000
Cornell University, Geneva	1,096,000	1,195,000	1,201,000
North Carolina State University	7,551,000	7,908,000	7,912,000
North Dakota State University	2,683,000	2,948,000	2,942,000
Northern Marianas College	788,000	869,000	867,000
Ohio State	6,759,000	7,487,000	7,475,000
Oklahoma State University	3,597,000	4,008,000	4,002,000
Oregon State University	3,320,000	3,708,000	3,701,000
Pennsylvania State University	6,861,000	7,518,000	7,505,000
University of Puerto Rico	4,151,000	4,353,000	4,349,000
University of Rhode Island	1,383,000	1,519,000	1,516,000
Clemson University	3,834,000	4,218,000	4,211,000
South Dakota State University	2,811,000	3,111,000	3,106,000
University of Tennessee	5,413,000	5,965,000	5,956,000
Texas A&M University	7,560,000	8,483,000	8,468,000
Utah State University	2,070,000	2,279,000	2,280,000
University of Vermont	1,652,000	1,826,000	1,822,000
College of the Virgin Island	952,000	1,049,000	1,048,000
Virginia Polytechnic Institute	4,683,000	5,158,000	5,151,000
Washington State University	3,872,000	4,258,000	4,251,000
West Virginia University	2,960,000	3,238,000	3,233,000
University of Wisconsin	5,790,000	6,394,000	6,384,000
University of Wyoming	1,761,000	1,951,000	1,947,000
Subtotal	202,110,000	222,855,000	222,570,000
Biotechnology Risk Assessment	1,133,000	873,000	943,000
Multistate Research Award Funds	15,000	15,000	0
Current Research Information System	323,000	0	0
Federal Administration	6,214,000	6,854,000	6,854,000
Small Business Innovation Research	5,220,000	5,737,000	5,966,000
TOTAL	215,000,000	236,334,000	236,334,000

Summary of Persnnel Supported with Hatch Act Funds in Fiscal Year 2010

University/Recipient	Station	Scientist Support	Professional Support	Technical Support	Clerical Support	Total Support
AUBURN UNIVERSITY	ALA	47.9	51.4	17.4	13.5	130.2
UNIVERSITY OF ALASKA	ALK	11.0	2.9	6.5	0.1	20.5
UNIVERSITY OF ARKANSAS	ARK	94.6	247.9	40.2	53.2	435.9
UNIVERSITY OF ARIZONA	ARZT	129.0	191.4	77.0	45.3	442.7
UNIV OF CALIFORNIA	CALB	300.4	1,006.9	138.6	330.7	1,776.6
UNIV OF CALIFORNIA (VET-MED)	CALB	1.3	0.0	0.9	0.0	2.2
UNIVERSITY OF CALIFORNIA	CALB	90.9	279.0	49.0	48.5	467.4
COLORADO STATE UNIVERSITY	COL	51.1	149.8	34.9	41.6	277.4
CONNECTICUT AGRICULTURAL EXPERIMENT STAT	CONH	28.4	0.0	17.1	0.0	45.5
UNIV OF CONNECTICUT	CONS	4.9	15.6	0.8	7.6	28.9
UNIV OF THE DISTRICT OF COLUMBIA	DC.	2.2	0.0	3.8	0.0	6.0
UNIVERSITY OF DELAWARE	DEL	7.5	37.8	62.0	0.0	107.3
UNIVERSITY OF FLORIDA	FLA	181.3	241.4	293.4	98.3	814.4
UNIVERSITY OF GEORGIA	GEO	165.1	147.1	138.5	83.3	534.0
UNIVERSITY OF GUAM UOG STATION	GUA	8.1	1.3	11.4	4.0	24.8
UNIV OF HAWAII	HAW	54.4	21.9	7.8	61.7	145.8
UNIV OF IDAHO	IDA	67.1	46.8	25.6	56.3	195.8
UNIVERSITY OF ILLINOIS	ILLU	110.3	281.1	21.7	47.0	460.1
PURDUE UNIVERSITY	IND	214.5	579.2	100.8	176.5	1,071.0
IOWA STATE UNIVERSITY	IOW	124.1	182.9	4.1	216.1	527.2
KANSAS STATE UNIV	KAN	153.4	217.9	68.5	38.2	478.0
UNIVERSITY OF KENTUCKY	KY.	85.8	114.0	147.5	70.8	418.1
LOUISIANA STATE UNIVERSITY	LA.B	87.5	90.9	6.4	42.8	227.6
UNIV OF MASSACHUSETTS	MAS	12.6	2.4	2.9	6.3	24.2
UNIV OF MARYLAND	MD.	23.6	21.8	13.7	15.9	75.0
UNIVERSITY OF MAINE	ME.	31.1	31.6	12.5	9.0	84.2
MICHIGAN STATE UNIV	MICL	120.9	253.5	21.2	199.7	595.3
UNIV OF MINNESOTA	MIN	84.5	192.9	38.6	103.7	419.7
COLLEGE OF MICRONESIA	MIR	5.3	2.6	2.7	1.4	12.0
MISSISSIPPI STATE UNIV	MIS	58.6	140.6	26.9	173.3	399.4
UNIVERSITY OF MISSOURI	MO.	54.9	120.5	12.0	42.4	229.8
MONTANA STATE UNIVERSITY	MONB	49.4	89.4	40.1	15.1	194.0
NORTH CAROLINA STATE UNIV	NC.	164.7	226.5	229.2	37.9	658.3
NORTH DAKOTA STATE UNIV	ND.	81.5	172.9	23.0	13.4	290.8
UNIVERSITY OF NEBRASKA	NEB	122.2	270.7	128.9	176.6	698.4
UNIVERSITY OF NEVADA	NEV	5.8	11.8	0.5	3.2	21.3
UNIVERSITY OF NEW HAMPSHIRE	NH.	8.1	1.8	0.0	0.0	9.9
RUTGERS UNIVERSITY	NJ.	59.3	37.6	28.3	6.3	131.5
NEW MEXICO STATE UNIV	NM.	31.8	23.1	10.8	5.9	71.6
NORTHERN MARIANAS COLLEGE	NMA	2.2	3.2	0.1	0.6	6.1
CORNELL UNIVERSITY	NY.C	50.8	51.1	18.2	129.3	249.4
N Y AGRICULTURAL EXPT STATION	NY.G	36.8	40.8	28.7	99.2	205.5
OHIO STATE UNIVERSITY	OHO	103.2	148.1	68.8	87.5	407.6
OKLAHOMA STATE UNIVERSITY	OKL	83.9	188.5	11.6	12.4	296.4
OREGON STATE UNIVERSITY	ORE	108.6	350.8	44.7	32.9	537.0
PENNSYLVANIA STATE UNIVERSITY	PEN	214.5	273.3	45.4	111.9	645.1
UNIVERSITY OF PUERTO RICO AT MAYAGUEZ	PR.	23.0	4.4	14.2	104.0	145.6
UNIVERSITY OF RHODE ISLAND	RI.	6.4	1.6	0.0	0.2	8.2
AMERICAN SAMOA COMM COLLEGE	SAM	0.0	0.0	0.0	0.0	0.0
CLEMSON UNIVERSITY	SC.	42.6	0.0	59.8	11.1	113.5
SOUTH DAKOTA STATE UNIVERSITY	SD.	72.3	106.8	21.2	55.2	255.5
UNIVERSITY OF TENNESSEE	TEN	82.3	174.9	64.7	23.6	345.5
TEXAS A&M UNIV	TEX	234.4	672.9	87.4	54.3	1,049.0
UTAH STATE UNIVERSITY	UTA	14.7	6.6	1.1	0.0	22.4
VIRGINIA POLYTECHNIC INSTITUTE	VA.	93.5	254.8	163.4	39.9	551.6
UNIV OF THE VIRGIN ISLANDS	VI.	2.4	9.0	11.0	1.6	24.0
UNIVERSITY OF VERMONT	VT.	10.3	21.6	5.6	4.1	41.6
UNIV OF WISCONSIN	WIS	15.6	67.7	1.1	13.7	98.1
WASHINGTON STATE UNIVERSITY	WN.P	98.0	252.3	41.9	32.8	425.0
WEST VIRGINIA UNIVERSITY	WVA	26.1	35.6	0.0	24.6	86.3
UNIVERSITY OF WYOMING	WYO	5.0	8.0	3.0	0.0	16.0
TOTAL		**4,261.7**	**8,178.9**	**2,557.1**	**3,084.5**	**18,082.2**

Smith-Lever

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing the allocation of Smith-Lever funding per university for fiscal years 2010 through 2013 (estimate). Include the number of personnel supported by the funding for the most recent year the information is available.

Response: Recipients of Smith-Lever funds have the flexibility to distribute funds among research projects, infrastructure, and personnel as they wish to meet the needs of their university. The distribution of these dollars varies from state to state. The latest data on personnel supported with Smith-Lever funds as reported into the Plan of Work System by recipient institutions is for fiscal year 2010. The recipient institutions do not assemble the data until the close of the fiscal year and then the reporting process requires approximately six additional months. Fiscal year 2011 data is being collected now, but not all institutions have made their reports available yet. Therefore, we do not have complete data for fiscal year 2011 at this time. Fiscal year 2010 personnel data as reported by the institutions is provided for record. Award decisions have not been finalized for FY 2013.

[The information follows:]

Smith Lever 3B&C

University/Recipient	FISCAL YEAR 2010	FISCAL YEAR 2011	FISCAL YEAR 2012	FISCAL YEAR 2013
TUSKEGEE UNIVERSITY	$17,477	$17,377	$11,691	-
AUBURN UNIV., ALABAMA	7,289,187	7,240,411	7,248,218	-
American Samoa Community	928,148	922,092	929,445	-
UNIVERSITY OF ALASKA	1,184,579	1,161,046	1,171,027	-
UNIVERSITY OF ARKANSAS	6,109,705	6,086,710	6,052,806	-
UNIVERSITY OF ARIZONA	2,160,365	2,134,242	2,148,487	-
UNIV OF CALIFORNIA	7,671,905	7,618,497	7,679,293	-
COLORADO STATE UNIVERSITY	3,286,400	3,255,690	3,253,133	-
UNIVERSITYOF THE DISTRICT OF COLUMBIA	1,164,277	1,157,560	1,165,360	-
UNIV OF CONNECTICUT	2,142,874	2,131,815	2,145,240	-
UNIVERSITY OF DELAWARE	1,309,216	1,295,154	1,305,086	-
UNIVERSITY OF FLORIDA	4,895,110	4,765,113	4,771,051	-
UNIVERSITY OF GEORGIA	8,140,304	7,931,125	7,937,929	-
UNIVERSITY OF GUAM	992,314	985,529	993,766	-
UNIVERSITY OF HAWAII	1,350,934	1,342,841	1,337,693	-
UNIV OF IDAHO	2,917,548	2,855,276	2,829,245	-
UNIVERSITY OF ILLINOIS	9,894,305	9,762,419	9,688,622	-
PURDUE UNIVERSITY	9,011,459	8,941,163	8,947,625	-
IOWA STATE UNIVERSITY	9,821,212	9,600,599	9,539,111	-
KANSAS STATE UNIV	5,866,435	5,787,464	5,776,078	-
KENTUCKY STATE UNIVERSITY	20,946	17,798	70,446	-
UNIVERSITY OF KENTUCKY	9,717,448	9,598,393	9,642,512	-
LOUISIANA STATE UNIVERSITY	5,687,551	5,440,237	5,442,740	-
UNIVERSITY OF MASSACHUSETTS	2,649,727	2,636,897	2,652,472	-
UNIV OF MARYLAND	3,427,074	3,379,053	3,387,056	-
UNIVERSITY OF MAINE	2,375,640	2,321,736	2,323,233	-
COLLEGE OF MICRONESIA	1,038,571	1,031,117	1,040,166	-
MICHIGAN STATE UNIV	9,187,338	9,100,333	9,107,734	-
UNIV OF MINNESOTA	9,469,318	9,353,770	9,025,087	-
MISSISSIPPI STATE UNIV	7,056,358	6,969,275	7,288,639	-
UNIVERSITY OF MISSOURI	8,981,084	8,977,575	8,978,554	-
MONTANA STATE UNIVERSITY	2,767,280	2,692,272	2,734,023	-
NORTH CAROLINA STATE UNIV	12,176,590	11,917,461	12,019,689	-
NORTH DAKOTA STATE UNIVERSITY	3,607,027	3,579,130	3,567,978	-
UNIVERSITY OF NEBRASKA	5,263,431	5,207,132	5,219,404	-
UNIVERSITY OF NEVADA	1,284,029	1,273,812	1,265,522	-
UNIVERSITY OF NEW HAMPSHIRE	1,765,576	1,758,430	1,748,424	-
RUTGERS UNIVERSITY	2,779,063	2,767,003	2,771,930	-
NEW MEXICO STATE UNIV	2,269,043	2,209,792	2,177,524	-
NORTHERN MARIANAS COLLEGE	911,968	905,770	913,295	-
CORNELL UNIVERSITY	8,697,134	8,458,978	8,330,763	-
OHIO STATE UNIVERSITY	10,799,385	10,795,757	10,861,701	-
OKLAHOMA STATE UNIVERSITY	5,809,900	5,653,495	5,636,391	-
OREGON STATE UNIVERSITY	3,976,905	3,935,054	3,888,942	-
PENNSYLVANIA STATE UNIVERSITY	10,291,681	10,202,134	10,256,552	-
UNIVERSITY OF PUERTO RICO	6,457,245	6,316,580	6,427,403	-
UNIVERSITY OF RHODE ISLAND	1,097,680	1,091,087	1,099,420	-
CLEMSON UNIVERSITY	5,793,909	5,730,954	5,742,339	-
SOUTH DAKOTA STATE UNIVERSITY	3,704,144	3,603,374	3,606,102	-
UNIVERSITY OF TENNESSEE	9,452,449	9,159,051	9,121,047	-
TEXAS A&M UNIVERSITY	13,291,939	13,161,907	13,137,015	-
UTAH STATE UNIVERSITY	1,917,142	1,826,884	1,836,350	-
VIRGINIA POLY TECH INST.	7,393,807	7,266,277	7,236,861	-
UNIVERSITY OF THE VIRGIN ISLANDS	959,371	952,994	960,736	-
UNIVERSITY OF VERMONT	1,878,512	1,862,503	1,858,516	-
UNIV OF WISCONSIN	8,972,834	8,887,557	8,909,619	-
WASHINGTON STATE UNIVERSITY	4,399,342	4,343,440	4,315,700	-
WEST VIRGINIA UNIVERSITY	4,213,649	4,191,229	4,196,278	-
UNIV OF WYOMING	1,646,656	1,633,627	1,636,607	-
SUB-TOTAL	**289,342,500**	**285,201,991**	**285,365,676**	**285,842,500**
Additional CSRS OWCP claims reduction	0	695,069	616,824	0
Special Needs Projects	0	0	0	0
TOTAL	**$289,342,500**	**$285,897,060**	**$285,982,500**	**$285,842,500**
Federal Aministration	8,157,500	8,013,940	8,017,500	6,568,500
TOTAL APPROPRIATION	**$297,500,000**	**$293,911,000**	**$294,000,000**	**$292,411,000**

2010 Smith Lever 3b&c FTE's by Institution

Institution (Information is Reported by State)	Full-Time Equivalent (FTE)
2010 Alabama A&M University and Auburn University	264.2
2010 American Samoa Community College	11.5
2010 Clemson University and South Carolina State University	165
2010 College of Micronesia	40
2010 Colorado State University	137
2010 Delaware State University and University of Delaware	59.1
2010 Fort Valley State University and University of Georgia	92.1
2010 Iowa State University	221.5
2010 Kansas State University	422
2010 Kentucky State University and University of Kentucky	627
2010 Louisiana State University	270.6
2010 Michigan State University	202
2010 Mississippi State University	265.1
2010 Montana State University	35.4
2010 NY State Agricultural Experiment Station Research and Cornell University	1,463.00
2010 New Mexico State University	35.6
2010 North Carolina A&T State University	395
2010 North Dakota State University	72
2010 Northern Marianas College	18.9
2010 Ohio State University	210
2010 Oklahoma State University	254
2010 Oregon State University	210
2010 Pennsylvania State University	390
2010 Purdue University	77.8
2010 Rutgers	175
2010 South Dakota State University	129
2010 Texas A&M University	461.7
2010 University of Alaska	34.3
2010 University of Arizona	51
2010 University of Arkansas	349
2010 University of California	273
2010 University of Connecticut - Storrs	82.1
2010 University of Florida Research and Extension and Florida A&M University	428.9
2010 University of Guam	19.4
2010 University of Hawaii	61.2
2010 University of Idaho	99.1
2010 University of Illinois	234.1
2010 University of Maine	75
2010 University of Maryland and University of Maryland - Eastern Shore	80
2010 University of Massachusetts	115.7

2010 University of Minnesota	189.4
2010 University of Missouri	250
2010 University of Nebraska	205
2010 University of Nevada	41.3
2010 University of New Hampshire	80
2010 University of Puerto Rico	174.4
2010 University of Rhode Island	22
2010 University of Tennessee and Tennessee State University	450
2010 University of Vermont	56.8
2010 University of Wisconsin	148.5
2010 University of Wyoming	104
2010 University of the District of Columbia	55.1
2010 University of the Virgin Islands	32.4
2010 Utah State University	107
2010 Virginia Polytechnic Inst. & State University and Virginia State University	259
2010 Washington State University	170
2010 West Virginia University	172
GRAND TOTAL	**11,124.20**

McIntire-Stennis

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing the allocation of McIntire-Stennis funding per university for fiscal years 2010 through 2013 (estimate). Include the number of personnel supported by the funding for the most recent year the information is available.

Response: Recipients of McIntire-Stennis funds have the flexibility to distribute funds among research projects, infrastructure, and personnel as they wish to meet the needs of their university. The distribution of these dollars varies from state to state. The latest data on personnel supported with McIntire-Stennis funds as reported in the Current Research Information System (CRIS) by recipient institutions is for FY 2010. The recipient institutions do not assemble the data until the close of the fiscal year and then the reporting process requires approximately 6 additional months. Fiscal year 2011 data are being collected now, but not all institutions have made their reports available yet. Therefore, we do not have complete data for FY 2011 at this time. Fiscal year 2010 personnel data as reported by the institutions are provided for record. Award decisions have not been finalized for FY 2013, but will subtotal $31,078,000, with an additional $37,000 for Biotechnology Risk Assessment, $831,000 for Small Business Innovation Research, and an additional $988,000 for Federal Administration, for a total of $32,934,000 for the McIntire-Stennis program.

[The information follows:]

	FY2010	FY2011	FY2012
Alabama, Auburn University	$644,000	$623,000	$521,000
Alabama, A&M University	138,000	208,000	260,000
Alabama, Tuskegee University	138,000	208,000	260,000
University of Alaska, Fairbanks	639,000	681,000	642,000
American Samoa Community College	59,000	44,000	44,000
Arizona, Flagstaff Northern Arizona University	232,000	241,000	221,000
Arizona, Tucson-University of Arizona	232,000	241,000	221,000
University of Arkansas, Fayetteville	814,000	919,000	921,000
University of California, California Polytechnic	120,000	129,000	123,000
California, Humboldt	120,000	129,000	123,000
California, Berkeley	558,000	602,000	575,000
Colorado State University Fort Collins	393,000	422,000	403,000
Connecticut Agricultural Experiment Station	203,000	257,000	272,000
University of Connecticut, Storrs	68,000	86,000	91,000
Delaware, Newark	101,000	99,000	115,000
University of Delaware	11,000	25,000	49,000
Florida, Gainesville	686,000	774,000	775,000
Florida, Florida A&M	76,000	86,000	86,000
Georgia, Athens	876,000	989,000	991,000
Georgia, Fort Valley State	97,000	110,000	110,000
University of Guam	59,000	44,000	44,000
University of Hawaii	218,000	263,000	244,000
University of Idaho	586,000	661,000	642,000
Southern Illinois University	214,000	261,000	261,000
University of Illinois	214,000	261,000	261,000
Purdue University	481,000	561,000	563,000
Iowa State University, Ames	376,000	462,000	463,000
Kansas State University	288,000	343,000	303,000
Kentucky, Lexington	513,000	579,000	580,000
Kentucky, Frankfort	91,000	102,000	102,000
Louisiana State University Baton Rouge	539,000	587,000	555,000
Louisiana Tech University	231,000	252,000	238,000
Louisiana, Southern Univ	62,000	120,000	168,000
University of Maine	744,000	840,000	842,000
University of Maryland	323,000	362,000	307,000
Maryland Eastern Shore	0	40,000	77,000
University of Massachusetts	340,000	422,000	443,000
Michigan State University	271,000	313,000	314,000
Michigan Tech University	271,000	313,000	314,000
University of Michigan	271,000	313,000	314,000
University of Minnesota	674,000	780,000	762,000
Mississippi State University	722,000	815,000	817,000
Mississippi, Alcorn State	180,000	204,000	204,000
University of Missouri	543,000	631,000	632,000

	FY2010	FY2011	FY2012
Missouri, Lincoln University	61,000	70,000	70,000
Montana State University	551,000	641,000	662,000
University of Nebraska	270,000	303,000	323,000
University of Nevada	147,000	164,000	124,000
University of New Hampshire	428,000	482,000	483,000
New Jersey, Rutgers	253,000	323,000	343,000
New Mexico State University	340,000	343,000	303,000
New York, Cornell	195,000	230,000	240,000
New York, State University	585,000	690,000	721,000
North Carolina State Univ. Raleigh	937,000	1,059,000	1,081,000
North Dakota State University	165,000	183,000	204,000
Ohio Agricultural Research and Development Center	498,000	581,000	602,000
Oklahoma State University	516,000	601,000	583,000
Oregon State University	920,000	1,078,000	1,061,000
Pennsylvania State University	639,000	720,000	722,000
University of Puerto Rico	95,000	104,000	104,000
University of Rhode Island	112,000	144,000	144,000
South Carolina, Clemson University	727,000	800,000	822,000
South Dakota State University	182,000	203,000	224,000
University of Tennessee	591,000	629,000	665,000
Tennessee State University	66,000	111,000	117,000
Texas, Stephen F. Austin State University	407,000	440,000	441,000
Texas A&M University	407,000	440,000	441,000
Utah State University	288,000	283,000	244,000
University of Vermont	393,000	482,000	503,000
College of the Virgin Islands	59,000	84,000	44,000
Virginia Polytechnic Institute	17,000	810,000	811,000
Virginia State University	80,000	90,000	90,000
Washington State University	398,000	449,000	451,000
University of Washington	487,000	549,000	551,000
West Virginia University, Morgantown	496,000	559,000	560,000
West Virginia University	55,000	62,000	62,000
University of Wisconsin	674,000	760,000	742,000
Wyoming	235,000	243,000	283,000
Subtotal	27,390,000	31,110,000	31,078,000
Biotechnology Risk Assessment	37,000	37,000	37,000
Federal Administration	870,000	988,000	988,000
Small Business Innovation Research	703,000	799,000	831,000
TOTAL	29,000,000	32,934,000	32,934,000

Summary of Personnel Supported with McIntire-Stennis Funds in Fiscal Year 2010

University/Recipient	Station	Scientist Support	Professional Support	Technical Support	Clerical Support	Total Support
TUSKEGEE UNIVERSITY	AL.X	2.1	3.0	0.0	0.0	5.1
ALABAMA A&M UNIVERSITY	ALAX	1.3	0.1	0.0	0.0	1.4
AUBURN UNIVERSITY	ALAZ	14.8	37.8	1.9	3.3	57.8
UNIVERSITY OF ALASKA	ALK	5.4	1.9	2.5	0.5	10.3
UNIVERSITY OF ARKANSAS	ARK	7.5	14.7	0.9	2.2	25.3
UNIVERSITY OF ARIZONA	ARZT	7.2	18.4	5.9	4.6	36.1
NORTHERN ARIZONA UNIVERSITY	ARZZ	0.0	6.0	0.0	0.0	6.0
UNIV OF CALIFORNIA	CALB	16.4	25.5	8.6	12.0	62.5
UNIVERSITY OF CALIFORNIA	CALB	0.0	0.7	0.1	0.2	1.0
CAL POLYTECHNIC STATE UNIV	CALY	1.1	0.8	0.0	0.6	2.5
HUMBOLDT STATE UNIV	CALZ	0.6	4.0	0.1	0.0	4.7
COLORADO STATE UNIVERSITY	COL	1.3	5.1	1.8	0.0	8.2
CONNECTICUT AGRICULTURAL EXPERIMENT STATION	CONH	6.1	0.0	3.6	0.0	9.7
UNIV OF CONNECTICUT	CONS	0.3	0.8	0.0	0.0	1.1
UNIVERSITY OF DELAWARE	DEL	1.8	0.2	4.0	0.0	6.0
UNIVERSITY OF FLORIDA	FLA	15.7	17.5	28.9	3.7	65.8
FLORIDA A&M UNIVERSITY	FLAX	0.0	0.0	0.5	0.0	0.5
UNIVERSITY OF GEORGIA	GEOZ	17.1	16.3	12.3	7.9	53.6
UNIVERSITY OF GUAM UOG STATION	GUA	0.0	0.0	0.0	0.0	0.0
UNIV OF HAWAII	HAW	4.4	1.7	0.8	6.6	13.5
UNIV OF IDAHO	IDAZ	2.8	0.0	0.0	0.0	2.8
UNIVERSITY OF ILLINOIS	ILLU	2.3	4.7	0.0	1.9	8.9
SOUTHERN ILLINOIS UNIV	ILLZ	3.8	2.1	0.0	0.6	6.5
PURDUE UNIVERSITY	IND	8.3	23.8	5.5	11.1	48.7
IOWA STATE UNIVERSITY	IOW	6.6	16.8	0.0	3.8	27.2
KANSAS STATE UNIV	KAN	2.7	2.1	3.1	0.1	8.0
UNIVERSITY OF KENTUCKY	KY.	5.2	5.3	1.3	7.8	19.6
KENTUCKY STATE UNIVERSITY	KY.X	0.0	0.0	0.0	0.0	0.0
LOUISIANA STATE UNIVERSITY	LA.B	6.7	2.1	0.7	1.9	11.4
SOUTHERN UNIV	LA.X	0.0	1.0	1.0	0.0	2.0
LOUISIANA TECH UNIVERSITY	LA.Z	2.8	0.0	0.0	0.7	3.5
UNIV OF MASSACHUSETTS	MAS	1.9	0.1	0.3	1.2	3.5
UNIV OF MARYLAND	MD.	0.5	2.8	0.7	0.0	4.0
UNIVERSITY OF MAINE	ME.	12.1	15.3	5.0	3.4	35.8
MICHIGAN STATE UNIV	MICL	5.7	11.9	1.0	9.6	28.2
UNIVERSITY OF MICHIGAN	MICY	4.0	4.8	0.4	0.4	9.6
MICHIGAN TECHNOLOGICAL UNIV	MICZ	0.0	3.4	2.3	0.0	5.7
UNIV OF MINNESOTA	MIN	9.2	30.3	1.2	15.1	55.8
FOREST AND WILDLIFE RES CENTER	MISZ	15.0	57.7	0.0	33.5	106.2
UNIVERSITY OF MISSOURI	MO.	8.3	14.4	1.1	6.7	30.5
LINCOLN UNIVERSITY	MO.X	0.3	0.0	0.0	1.0	1.3
UNIVERSITY OF MONTANA	MONZ	1.3	2.2	6.2	0.0	9.7
NORTH CAROLINA STATE UNIV	NC.Z	32.8	60.9	3.2	9.1	106.0
NORTH DAKOTA STATE UNIV	ND.	2.5	3.1	0.2	0.2	6.0
UNIVERSITY OF NEBRASKA	NEB	2.3	5.1	2.4	3.4	13.2
UNIVERSITY OF NEVADA	NEV	1.2	1.8	0.0	0.5	3.5
UNIVERSITY OF NEW HAMPSHIRE	NH.	1.4	1.5	0.0	0.0	2.9
RUTGERS UNIVERSITY	NJ.	2.0	0.4	0.3	0.0	2.7
NEW MEXICO STATE UNIV	NM.	2.2	3.0	2.0	1.1	8.3
CORNELL UNIVERSITY	NY.C	1.9	0.8	1.0	4.0	7.7
STATE UNIV OF NEW YORK	NY.Z	2.0	12.7	2.9	0.4	18.0
OHIO STATE UNIVERSITY	OHO	5.8	5.9	3.2	4.3	19.2
OKLAHOMA STATE UNIVERSITY	OKL	6.7	14.4	0.0	0.0	21.1
OREGON STATE UNIVERSITY	OREZ	34.3	93.4	5.4	9.8	142.9
PENNSYLVANIA STATE UNIVERSITY	PEN	9.0	11.9	0.0	14.0	34.9
UNIVERSITY OF PUERTO RICO AT MAYAGUEZ	PR.	1.3	0.2	0.4	0.5	2.4
UNIVERSITY OF RHODE ISLAND	RI.	0.7	0.2	0.0	0.0	0.9
CLEMSON UNIVERSITY	SC.	5.3	0.0	8.0	1.0	14.3
SOUTH DAKOTA STATE UNIVERSITY	SD.	1.6	5.0	1.8	1.3	9.7
UNIVERSITY OF TENNESSEE	TEN	7.4	17.5	1.5	4.0	30.4
TENNESSEE STATE UNIVERSITY	TENX	0.2	0.0	0.0	0.0	0.2
TEXAS A&M UNIV	TEX	3.6	8.4	1.0	1.0	14.0
STEPHEN F. AUSTIN STATE UNIVERSITY	TEXY	3.6	8.7	0.4	0.0	12.7
UTAH STATE UNIVERSITY	UTA	2.2	0.0	0.0	0.0	2.2
VIRGINIA POLYTECHNIC INSTITUTE	VA.	16.7	50.6	6.2	3.8	77.3
VIRGINIA STATE UNIVERSITY	VA.X	0.3	0.0	0.2	0.0	0.5
UNIV OF THE VIRGIN ISLANDS	VI.	0.3	1.0	0.0	0.2	1.5
UNIVERSITY OF VERMONT	VT.Z	2.9	1.2	1.2	2.3	7.6
UNIV OF WISCONSIN	WIS	2.4	7.7	0.0	1.7	11.8
WASHINGTON STATE UNIVERSITY	WN.P	3.9	12.2	4.3	0.2	20.6
UNIVERSITY OF WASHINGTON	WN.Z	12.2	0.9	9.2	11.9	34.2
WEST VIRGINIA UNIVERSITY	WVA	5.5	5.7	0.0	0.5	11.7
WEST VIRGINIA STATE UNIVERSITY	WVAX	0.1	0.0	0.0	0.0	0.1
UNIVERSITY OF WYOMING	WYO	0.0	0.0	0.0	0.0	0.0
TOTAL		**376.9**	**689.5**	**156.5**	**215.6**	**1,438.5**

Animal Health and Disease

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing the allocation of Animal Health and Disease program funding for fiscal years 2010 through 2013 (estimate). Include the number of personnel supported by the funding for the most recent year the information is available.

Response: Recipients of Animal Health and Disease Research funds have the flexibility to distribute funds among research projects, infrastructure, and personnel as they wish to meet the needs of their university. The distribution of these dollars varies from state to state. Recipient institutions complete assembly of personnel data approximately eight months after the close of the fiscal year. Fiscal year 2011 data is being collected now and is not yet available. Fiscal year personnel data as reported by the institutions is provided for record. Award decisions have not been finalized for FY 2013.

[The information follows:]

ANIMAL HEALTH STATE	Fiscal Year 2010	Fiscal Year 2011	Fiscal Year 2012	Fiscal Year 2013 (estimate)
AL-Auburn University, Agricultural Experiment Station	17,894	25,075	$29,559	-
AL-Auburn University, School of Veterinary Medicine	44,553	31,112	40,279	-
AL-Tuskegee University, School of Veterinary Medicine	391	503	4,548	-
AK-University of Alaska, Agricultural Experiment Station	-	-	-	-
AZ-University of Arizona, Agricultural Experiment Station	30,848	31,330	39,353	-
AR-University of Arkansas, Agricultural Experiment Station	55,735	57,571	77,375	-
CA-University of California-Oakland, Agricultural Experiment Station	43,573	54,488	72,572	-
CA-University of California-Davis, School of Veterinary Medicine	202,351	156,599	166,171	-
CO-Colorado State Univ., Agric. Exper. Station & College of Vet. Medicine	170,596	195,261	300,875	-
CT-University of Connecticut-Storrs, Agricultural Experiment Station	18,512	18,215	24,999	-
DE-University of Delaware, Agricultural Experiment Station	9,930	10,485	15,477	-
FL-University of Florida, Agricultural Experiment Station	44,225	46,443	57,135	-
FL-University of Florida, College of Veterinary Medicine	1,171	592	370	-
GA-University of Georgia, Agricultural Experiment Station	10,232	12,837	13,890	-
GA-University of Georgia, College of Veterinary Medicine	69,291	72,513	104,868	-
HI-University of Hawaii, Agricultural Experiment Station	1,733	1,064	1,492	-
ID-University of Idaho, Agricultural Experiment Station	40,715	42,306	49,312	-
IL-Univ. of Illinois, Agric. Exper. Station & College of Vet. Medicine	60,892	54,026	54,753	-
IN-Purdue Univ, Agric. Exper. Station & College of Veterinary Medicine	43,195	46,614	61,011	-
IA-Iowa State University, Agricultural & Home Economics Experiment	42,736	53,812	67,096	-
IA-Iowa State University, College of Veterinary Medicine	53,948	47,375	74,018	-
KS-Kansas State Univ., Agric. Exper. Station & College of Vet. Medicine	86,782	87,447	105,083	-
KY-University of Kentucky, Agricultural Experiment Station	45,308	48,863	64,409	-
LA-Louisiana State University, Agricultural Experiment Station	13,727	13,815	18,648	-
LA-Louisiana State University, College of Veterinary Medicine	15,680	17,973	25,606	-
ME-University of Maine, Agricultural Experiment Station	5,362	5,853	8,372	-
MD-University of Maryland, Agricultural Experiment Station	20,015	22,274	25,123	-
MA-University of Massachusetts, Agricultural Experiment Station	3,152	5,287	9,005	-
MA-Tufts University, School of Veterinary Medicine	35,735	41,042	60,968	-
MI-Michigan State Univ., Agricultural Exper. Station & College of Vet. Med.	62,260	66,851	91,998	-
MN-University of Minnesota, Agricultural Exper. Station	32,757	34,989	49,763	-
MN-Univ. of Minnesota, College of Veterinary Medicine	141,837	110,133	115,694	-
MS-Miss. State Univ., Agricultural and Forestry Exper. Sta. & Coll. of Vet. Med	50,061	52,249	71,251	-
MO-University of Missouri, Agricultural Experiment Station	7,812	6,121	8,464	-
MO-University of Missouri, College of Veterinary Medicine	82,332	92,282	130,161	-
MT-Montana State University, Agricultural Experiment Station	32,823	33,272	45,533	-
NE-University of Nebraska, Agricultural Experiment Station	93,449	98,676	121,650	-
NV-University of Nevada, Agricultural Experiment Station	4,468	4,790	6,132	-
NH-University of New Hampshire, Agricultural Exper. Station	2,927	2,366	3,060	-
NJ-Rutgers University, Agricultural Experiment Station	8,131	8,581	13,346	-
NM-New Mexico State University, Agricultural Exper. Station	22,112	22,438	26,818	-
NY-Cornell University, Agricultural Experiment Station	16,378	13,833	14,184	-
NY-Cornell University, College of Veterinary Medicine	91,199	97,025	120,897	-
NC-North Carolina State University, Agricultural Experiment Station	28,348	40,197	69,345	-
NC-North Carolina State University, College of Veterinary Medicine	80,215	61,841	52,770	-
ND-North Dakota State University, Agricultural Experiment Station	19,073	18,567	22,480	-
OH-Ohio State University, Ohio Agricultural Research & Development Center	19,238	26,778	40,929	-
OH-Ohio State University, College of Veterinary Medicine	27,334	24,517	24,312	-
OK-Oklahoma State Univ., Agric. Exper. Station and College of Vet. Med.	67,354	61,295	68,719	-
OR-Oregon State University, Agricultural Experiment Station	35,758	42,341	63,491	-
PA-Pennsylvania State University, Agricultural Experiment Station	54,538	63,979	78,806	-
PA-University of Pennsylvania, College of Veterinary Medicine	58,803	40,882	43,637	-
PR-University of Puerto Rico, Agricultural Experiment Station	7,144	7,116	7,996	-
RI-University of Rhode Island, Agricultural Experiment Station	1,688	1,689	4,575	-
SC-Clemson University, Agricultural Experiment Station	15,065	16,266	23,458	-
SD-South Dakota State University, Agricultural Experiment Station	34,325	37,153	47,548	-
TN-University of Tennessee, Agricultural Experiment Station	16,845	17,579	31,326	-
TN-University of Tennessee, College of Veterinary Medicine	15,899	13,686	26,349	-
TX-Texas AgriLife Research., Agricultural Experiment Station and College of Med	193,590	182,373	218,949	-
UT-Utah State University, Agricultural Experiment Station	17,995	19,216	20,637	-
VT-University of Vermont, Agricultural Experiment Station	6,201	6,291	9,531	-
VA-VA Polytechnic Institute, Agric. Exper. Station and College of Vet. Med.	36,050	38,797	52,069	-
WA-Washington State University, Agricultural Experiment Station	3,672	3,480	5,290	-
WA-Washington State University, College of Veterinary Medicine	75,305	78,901	106,157	-
WV-West Virginia University, Agricultural & Forestry Experiment Station	5,388	5,249	13,279	-
WI-University of Wisconsin, Agric. Exper. Station & College of Vet. Med.	61,384	60,176	62,209	-
WY-University of Wyoming, Agricultural Experiment Station	17,200	18,308	234,000	-
SUBTOTAL	**2,735,240**	**2,731,058**	**3,719,180**	-
FEDERAL ADMINISTRATION	118,000	117,764	160,000	-
Small Business Set-Aside	70,800	70,658	99,840	-
Biotech Risk Assesment	25,960	24,620	20,980	-
TOTAL	$2,950,000	$2,944,100	$4,000,000	-

Summary of Personnel Supported with Animal Health Funds in Fiscal Year 2010

University/Recipient	Station	Funds	Scientist Support	Professional Support	Technical Support	Clerical Support	Total Support
AUBURN UNIVERSITY	ALAV	44,553	3.0	0.0	0.0	0.0	3.0
UNIVERSITY OF ARKANSAS	ARK	55,735	3.7	19.4	17.5	4.0	44.6
UNIVERSITY OF ARIZONA	ARZT	30,848	3.0	6.4	1.0	0.6	11.0
UNIV OF CALIFORNIA	CALB	9,292	3.5	8.9	0.9	3.6	16.9
UNIV OF CALIFORNIA (VET-MED)	CALB	25,745	1.3	0.0	0.9	0.0	2.2
UNIVERSITY OF CALIFORNIA	CALB	2,295	0.1	0.2	0.1	0.1	0.5
UNIV OF CALIFORNIA (VET-MED)	CALV	100,237	1.1	0.0	0.8	0.0	1.9
COLORADO STATE UNIVERSITY	COLV	170,596	112.1	294.0	50.6	75.5	532.2
UNIV OF CONNECTICUT	CONS	18,511	0.3	1.1	0.0	0.6	2.0
UNIVERSITY OF DELAWARE	DEL	9,930	0.0	0.0	0.0	0.0	0.0
UNIVERSITY OF FLORIDA	FLA	23,879	3.1	0.0	2.6	0.0	5.7
UNIVERSITY OF GEORGIA	GEO	10,232	0.3	0.0	0.0	0.0	0.3
UNIVERSITY OF GEORGIA	GEOV	69,291	5.9	1.0	0.2	2.1	9.2
UNIV OF HAWAII	HAW	1,733	0.3	0.1	0.0	0.0	0.4
UNIV OF IDAHO	IDA	40,715	0.0	0.1	0.0	0.0	0.1
UNIVERSITY OF ILLINOIS	ILLU	60,860	0.2	1.8	0.5	0.4	2.9
PURDUE UNIVERSITY	IND	43,195	4.2	8.2	0.0	1.2	13.6
IOWA STATE UNIVERSITY	IOW	42,736	0.0	0.2	0.0	0.2	0.4
IOWA STATE UNIVERSITY	IOWV	53,948	0.0	0.2	0.0	0.3	0.5
KANSAS STATE UNIV	KAN	86,782	0.5	0.0	0.0	0.0	0.5
UNIVERSITY OF KENTUCKY	KY.	45,308	1.4	0.9	0.7	1.6	4.6
LOUISIANA STATE UNIVERSITY	LA.B	13,639	0.3	0.1	0.2	0.3	0.9
LOUISIANA STATE UNIVERSITY	LA.V	15,680	0.4	0.8	2.6	0.0	3.8
UNIV OF MASSACHUSETTS	MAS	3,152	0.0	0.0	0.0	0.1	0.1
TUFTS UNIVERSITY	MASV	35,735	0.0	0.0	0.1	0.0	0.1
UNIV OF MARYLAND	MD.	20,015	0.0	0.0	0.0	1.0	1.0
UNIVERSITY OF MAINE	ME.	5,362	0.5	0.8	0.2	0.2	1.7
MICHIGAN STATE UNIV	MICL	62,260	0.6	1.0	0.0	0.7	2.3
UNIV OF MINNESOTA	MIN	32,757	0.6	0.6	0.0	0.8	2.0
UNIV OF MINNESOTA	MINV	141,837	0.7	0.1	0.0	0.0	0.8
MISSISSIPPI STATE UNIV	MISV	50,061	11.9	7.8	9.5	0.5	29.7
UNIVERSITY OF MISSOURI	MO.	7,812	0.0	0.2	1.5	0.0	1.7
UNIVERSITY OF MISSOURI	MO.V	82,322	1.7	0.7	0.0	0.0	2.4
MONTANA STATE UNIVERSITY	MONB	32,823	0.6	1.8	0.4	0.2	3.0
NORTH CAROLINA STATE UNIV	NC.	55,457	2.1	1.1	9.3	0.0	12.5
NORTH CAROLINA STATE UNIV	NC.V	80,215	2.7	0.0	0.6	0.0	3.3
NORTH DAKOTA STATE UNIV	ND.	19,073	1.6	4.3	0.0	2.5	8.4
UNIVERSITY OF NEBRASKA	NEB	93,449	4.4	9.7	4.6	6.3	25.0
UNIVERSITY OF NEVADA	NEV	4,468	0.3	0.3	0.0	0.0	0.6
RUTGERS UNIVERSITY	NJ.	8,131	0.3	0.0	0.1	0.0	0.4
NEW MEXICO STATE UNIV	NM.	22,112	0.4	0.0	0.0	0.3	0.7
CORNELL UNIVERSITY	NY.C	16,766	0.4	0.0	0.0	0.0	0.4
CORNELL UNIVERSITY	NYCV	96,378	0.1	0.7	0.2	0.6	1.6
OHIO STATE UNIVERSITY	OHO	19,239	0.7	0.8	0.6	0.8	2.9
OHIO STATE UNIVERSITY	OHOV	27,334	0.8	1.2	0.6	0.0	2.6
OKLAHOMA STATE UNIVERSITY	OKL	67,354	2.4	4.7	0.5	0.6	8.2
OREGON STATE UNIVERSITY	ORE	35,758	0.0	0.5	0.0	0.0	0.5
PENNSYLVANIA STATE UNIVERSITY	PEN	54,538	12.5	16.4	0.0	5.1	34.0
UNIV OF PENNSYLVANIA	PENV	58,804	0.4	0.0	0.0	0.0	0.4
UNIVERSITY OF RHODE ISLAND	RI.	864	0.0	0.0	0.0	0.0	0.0
CLEMSON UNIVERSITY	SC.	14,355	0.2	0.0	0.0	0.1	0.3
SOUTH DAKOTA STATE UNIVERSITY	SD.	34,325	1.6	2.5	1.4	0.4	5.9
UNIVERSITY OF TENNESSEE	TEN	16,845	0.0	2.0	0.0	0.0	2.0
UNIVERSITY OF TENNESSEE	TENV	1,761	0.0	0.0	0.0	0.0	0.0
TEXAS A&M UNIV	TEX	168,981	0.2	1.0	0.0	0.0	1.2
UTAH STATE UNIVERSITY	UTA	17,996	0.0	0.0	0.0	0.0	0.0
VIRGINIA POLYTECHNIC INSTITUTE	VA.	36,050	0.9	1.5	0.6	0.1	3.1
UNIVERSITY OF VERMONT	VT.	6,199	0.0	0.0	0.0	0.0	0.0
UNIV OF WISCONSIN	WIS	59,602	0.3	1.2	0.0	0.3	1.8
WASHINGTON STATE UNIVERSITY	WN.P	3,673	1.9	0.0	0.5	0.0	2.4
WASHINGTON STATE UNIVERSITY	WN.V	75,305	0.0	0.4	0.5	0.0	0.9
WEST VIRGINIA UNIVERSITY	WVA	5,388	0.0	0.0	0.0	0.1	0.1
UNIVERSITY OF WYOMING	WYO	0	1.0	0.0	2.0	0.0	3.0
TOTAL		**2,550,296**	**196.5**	**404.7**	**111.8**	**111.2**	**824.2**

Evans-Allen

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing the allocation of Evans-Allen funding per university for fiscal years 2010 through 2013 (estimate). Include the number of personnel supported by the funding for the most recent year the information is available.

Response: Recipients of Evans-Allen funds have the flexibility to distribute funds among research projects, infrastructure, and personnel as they wish to meet the needs of their university. The distribution of these dollars varies from state to state. Recipient institutions complete assembly of personnel data approximately 8 months after the close of the fiscal year. Fiscal year 2011 data are being collected now and are not yet available. Fiscal year 2010 personnel data as reported by the institutions are provided for record. Award decisions have not been finalized for FY 2013, but will subtotal $48,038,000, with an additional $1,333,000 for Small Business Innovation Research, and an additional $1,527,000 for Federal Administration, for a total of $50,898,000 for the Evans-Allen Program.

[The information follows:]

	Fiscal Year 2010	Fiscal Year 2011	Fiscal Year 2012
Alabama A&M University	$2,502,000	$2,627,000	$2,624,000
Tuskegee University	2,483,000	2,607,000	2,605,000
University of Arkansas-Pine Bluff	2,153,000	2,254,000	2,252,000
Delaware State University	1,193,000	1,226,000	1,225,000
Florida A&M University	1,976,000	2,081,000	2,079,000
Fort Valley State University	2,863,000	3,005,000	3,002,000
Kentucky State University	3,414,000	3,590,000	3,587,000
Southern University	1,914,000	1,998,000	1,996,000
University of Maryland-Eastern Shore	1,442,000	1,507,000	1,506,000
Alcorn State University	2,383,000	2,487,000	2,484,000
Lincoln University	3,360,000	3,542,000	3,539,000
North Carolina A&T State University	3,951,000	4,131,000	4,128,000
Langston University	2,188,000	2,307,000	2,305,000
South Carolina State Univ.	2,137,000	2,237,000	2,235,000
Tennessee State University	3,118,000	3,273,000	3,270,000
Prairie View A&M University	4,606,000	4,879,000	4,875,000
Virginia State University	2,661,000	2,790,000	2,788,000
West Virginia State Univ.	1,407,000	1,478,000	1,476,000
Subtotal	45,751,000	48,019,000	47,977,000
Small Business Innovation Research	1,176,000	1,234,000	1,284,000
Current Research Information System	48,000	0	0
Biotech Risk Assessment	70,000	118,000	110,000
Federal Administration	1,455,000	1,527,000	1,526,000
Total, Evans-Allen Program	48,500,000	50,898,000	50,898,000

Summary of Personnel Supported at 1890 Institutions with Evans-Allen Funds in Fiscal Year 2010

University/Recipient	Station	Scientist Support	Professional Support	Technical Support	Clerical Support	Total Support
TUSKEGEE UNIVERSITY	AL.X	25.6	63.9	1.1	5.5	96.1
ALABAMA A&M UNIVERSITY	ALAX	18.6	42.3	17.3	8.4	86.6
UNIV OF ARKANSAS	AR.X	11.2	12.4	3.6	5.6	32.8
DELAWARE STATE UNIVERSITY	DELX	6.0	3.4	1.0	13.4	23.8
FLORIDA A&M UNIVERSITY	FLAX	9.0	2.0	7.2	3.0	21.2
FORT VALLEY STATE UNIVERSITY	GEOX	7.5	1.0	0.0	1.2	9.7
KENTUCKY STATE UNIVERSITY	KY.X	18.5	6.0	0.0	0.0	24.5
SOUTHERN UNIV	LA.X	11.9	10.0	14.2	8.9	45.0
UNIV OF MARYLAND EASTERN SHORE	MD.X	3.4	6.9	4.2	1.5	16.0
ALCORN STATE UNIVERSITY	MISX	6.3	10.8	2.2	20.4	39.7
LINCOLN UNIVERSITY	MO.X	19.9	12.5	17.8	30.5	80.7
NORTH CAROLINA A&T STATE UNIV	NC.X	15.6	39.0	19.2	24.0	97.8
LANGSTON UNIVERSITY	OKLX	10.6	2.2	0.0	2.0	14.8
SOUTH CAROLINA STATE UNIVERSITY	SC.X	8.1	37.0	12.8	0.0	57.9
TENNESSEE STATE UNIVERSITY	TENX	9.0	14.7	10.0	1.2	34.9
PRAIRIE VIEW A&M UNIVERSITY	TEXX	1.5	1.5	1.5	3.0	7.5
VIRGINIA STATE UNIVERSITY	VA.X	10.4	6.5	16.9	7.5	41.3
WEST VIRGINIA STATE UNIVERSITY	WVAX	2.7	0.5	4.8	16.2	24.2
TOTAL		**195.8**	**272.6**	**133.8**	**152.3**	**754.5**

1890 Institutions

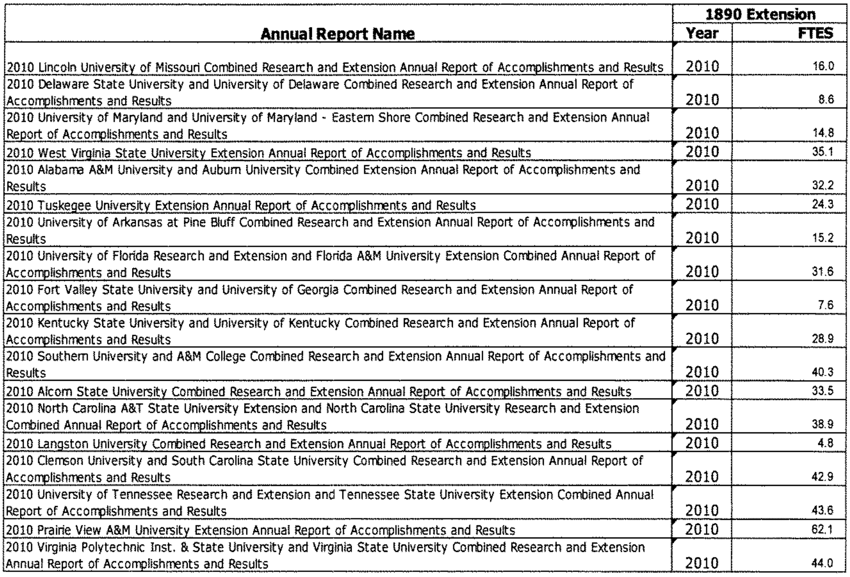
Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing funding provided to 1890 institutions for fiscal years 2010 through 2013 (estimate). Include the number of personnel supported by the funding for the most recent year the information is available.

Response: Recipients of 1890 Institutions funds have the flexibility to distribute funds among research projects, infrastructure, and personnel as they wish to meet the needs of their university. The distribution of these dollars varies from state to state. Recipient institutions complete assembly of personnel data approximately 8 months after the close of the fiscal year. Fiscal year 2011 data are being collected now and are not yet available. Fiscal year 2010 personnel data as reported by the institutions are provided for record. Award decisions have not been finalized for FY 2013, but will subtotal $40,888,000 with an additional $1,704,000 for Federal Administration, for a total of $42,592,000 for 1890 Institutions.

[The information follows:]

	Fiscal Year 2010	Fiscal Year 2011	Fiscal Year 2012
Alabama A&M University . . .	$2,116,000	$2,111,000	$2,111,000
Tuskegee University.	2,116,000	2,111,000	2,111,000
University of Arkansas-Pine Bluff	1,854,000	1,851,000	1,851,000
Delaware State University. .	1,163,000	1,162,000	1,162,000

	Fiscal Year 2010	Fiscal Year 2011	Fiscal Year 2012
Florida A&M University . . .	1,814,000	1,811,000	1,811,000
Fort Valley State University	2,529,000	2,523,000	2,523,000
Kentucky State University. .	3,162,000	3,156,000	3,156,000
Southern University.	1,659,000	1,656,000	1,656,000
University of Maryland-Eastern Shore	1,316,000	1,314,000	1,314,000
Alcorn State University. . .	1,980,000	1,976,000	1,976,000
Lincoln University	3,191,000	3,184,000	3,184,000
North Carolina A&T State University	3,583,000	3,577,000	3,577,000
Langston University.	1,955,000	1,951,000	1,951,000
South Carolina State Univ. .	1,819,000	1,815,000	1,815,000
Tennessee State University .	2,807,000	2,802,000	2,802,000
Prairie View A&M University.	4,194,000	4,184,000	4,184,000
Virginia State University. .	2,369,000	2,364,000	2,364,000
West Virginia State Univ. .	1,343,000	1,341,000	1,341,000
Subtotal	40,970,000	40,888,000	40,888,000
Federal Administration . . .	1,707,000	1,704,000	1,704,000
Total	42,677,000	42,592,000	42,592,000



Annual Report Name	1890 Extension	
	Year	FTES
2010 Lincoln University of Missouri Combined Research and Extension Annual Report of Accomplishments and Results	2010	16.0
2010 Delaware State University and University of Delaware Combined Research and Extension Annual Report of Accomplishments and Results	2010	8.6
2010 University of Maryland and University of Maryland - Eastern Shore Combined Research and Extension Annual Report of Accomplishments and Results	2010	14.8
2010 West Virginia State University Extension Annual Report of Accomplishments and Results	2010	35.1
2010 Alabama A&M University and Auburn University Combined Extension Annual Report of Accomplishments and Results	2010	32.2
2010 Tuskegee University Extension Annual Report of Accomplishments and Results	2010	24.3
2010 University of Arkansas at Pine Bluff Combined Research and Extension Annual Report of Accomplishments and Results	2010	15.2
2010 University of Florida Research and Extension and Florida A&M University Extension Combined Annual Report of Accomplishments and Results	2010	31.6
2010 Fort Valley State University and University of Georgia Combined Research and Extension Annual Report of Accomplishments and Results	2010	7.6
2010 Kentucky State University and University of Kentucky Combined Research and Extension Annual Report of Accomplishments and Results	2010	28.9
2010 Southern University and A&M College Combined Research and Extension Annual Report of Accomplishments and Results	2010	40.3
2010 Alcorn State University Combined Research and Extension Annual Report of Accomplishments and Results	2010	33.5
2010 North Carolina A&T State University Extension and North Carolina State University Research and Extension Combined Annual Report of Accomplishments and Results	2010	38.9
2010 Langston University Combined Research and Extension Annual Report of Accomplishments and Results	2010	4.8
2010 Clemson University and South Carolina State University Combined Research and Extension Annual Report of Accomplishments and Results	2010	42.9
2010 University of Tennessee Research and Extension and Tennessee State University Extension Combined Annual Report of Accomplishments and Results	2010	43.6
2010 Prairie View A&M University Extension Annual Report of Accomplishments and Results	2010	62.1
2010 Virginia Polytechnic Inst. & State University and Virginia State University Combined Research and Extension Annual Report of Accomplishments and Results	2010	44.0

1994 Institutions

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing funding provided to 1994 institutions for fiscal years 2010 through 2013 (estimate). Include the number of personnel supported by the funding for the most recent year the information is available.

Response: As a non-formula-based program, personnel data is not collected under this program. Award decisions have not been finalized for FY 2012 and FY 2013, but will total $4,133,000 for each year, plus $172,000 in Federal Administration and $7,000 in Peer Panel Costs for a total of $4,312,000 each year.

This information is submitted for the record.

[The information follows:]

	FY2010	FY2011
Dine` College, Arizona . . .	$85,000	85,000
Tohono O'odham Community College Arizona	85,000	90,000
Haskell Indian Nations University, Kansas	85,000	80,000

Bay Mills Community College, Michigan	184,467	95,000
Saginaw Chippewa Tribal College, Michigan	100,000	100,000
Leech Lake Tribal College, Minnesota	85,000	90,000
White Earth Tribal and Community College, Minnesota	85,000	100,000
Fond du Lac Tribal College	100,000	175,000
Blackfeet Community College, Montana	196,543	90,000
Chief Dull Knife College, Montana	85,000	100,000
Fort Belknap College, Montana	85,000	100,000
Fort Peck Community College, Montana	267,260	100,000
Little Big Horn College, Montana	85,000	85,000
Salish Kootenai College, Montana	100,000	185,000
Stone Child College, Montana	299,709	175,000
Little Priest Tribal College, Nebraska,	100,000	100,000
Nebraska Indian Community College, Nebraska	100,000	90,000
Institute of American Indian Arts, New Mexico	85,000	100,000
Navajo Technical College, New Mexico	100,000	185,000
Southwestern Indian Polytechnic Institute, New Mexico	185,000	180,000
Cankdeska Cikana Community		
	FY2010	FY2011
College, North Dakota	85,000	181,000
Fort Berthold Community College, North Dakota	85,000	100,000
Sitting Bull College, North Dakota	85,000	185,000
Turtle Mountain Community College, North Dakota	200,000	100,000
United Tribes Technical College North Dakota	100,000	185,000
Oglala Lakota College, South Dakota	200,000	100,000
Sinte Gleska University, South Dakota	100,000	100,000
Sisseton Wahpeton College, South Dakota	85,000	85,000
Northwest Indian College, WA	300,000	340,000
College of Menominee Nation, Wisconsin	185,000	90,000
Lac Courte Oreilles Ojibwa Comm. College, Wisconsin	200,000	85,000
Subtotal	4,122,979	4,126,000

Federal Administration	173,000	172,000
Peer Panel Costs	25,021	14,000
Total	4,321,000	4,312,000

NATIVE AMERICAN INSTITUTIONS ENDOWNMENT FUND

Mr. Kingston: Please update the Committee on the status of the Native American Institutions Endowment Fund for fiscal years 2009 through 2013 (estimate). Include a chart of the endowment's earned interest and the allocation to universities.

Response: The interest earned during FY 2009 was distributed through grants during FY 2010, and FY 2010 interest earned was distributed during FY 2011. Interest earned during FY 2011 will be distributed during 2012. Estimated interest earned during 2012 and 2013 will be distributed in FYs 2013 and 2014, respectively. The amount estimated for FY 2012 is $4,743,074, and for FY 2013 it is $5,045,000. Information on allocation for FYs 2009 through 2013 is provided for the record.

[The information follows:]

National Institute of Food and Agriculture
Native American Institutions Endowment Fund Interest
Funding History

Institutions	Fiscal Year 2009 Actual	Fiscal Year 2010 Actual	Fiscal Year 2011 Actual	Fiscal Year 2012 (Est.)	Fiscal Year 2013 (Est.)
Aaniiih Nakoda College	0	0	0	101,197	107,638
Bay Mills Community College	88,748	100,276	97,494	116,937	124,380
Blackfeet Community College	133,266	145,560	151,175	155,854	165,775
Candeska Cikana Community College	79,713	89,090	87,419	100,678	107,086
Chief Dull Knife College	78,727	88,188	88,993	92,894	98,808
College of Menominee Nation	99,754	139,967	123,154	138,212	147,009
Crownpoint Institute of Technology	126,202	145,019	0	0	0
Dine' College	299,509	307,397	302,144	395,241	420,399
D-Q University	0	0	0	0	0
Fond du Lac Tribal and					

Community College	90,555	88,729	81,437	106,905	113,709
Fort Belknap College	78,235	86,384	82,382	0	0
Fort Berthold Community College	84,313	98,291	94,031	94,278	100,279
Fort Peck Community College	104,190	127,338	116,227	130,082	138,362
Haskell Indian Nations University	210,967	231,079	229,572	245,970	261,627
Ilisagvik College, AK	60,165	86,384	71,362	78,712	83,722
Institute of American Indian Arts	84,970	96,126	90,410	97,045	103,223
Lac Courte Oreilles Ojibwa Community College	107,639	115,431	108,514	107,769	114,629
Leech Lake Tribal College	83,327	89,090	87,262	87,359	92,920
Little Big Horn College	102,383	118,318	122,997	137,001	145,721
Little Priest Tribal College	61,150	71,589	69,945	75,253	80,043
Navajo Technical College	0	0	181,558	236,111	251,140
Nebraska Indian Community College	61,315	69,244	71,677	75,597	80,410
Northwest Indian College	152,979	159,994	213,043	173,324	184,357
Oglala Lakota College	220,987	259,585	269,871	301,838	321,051
Saginaw Bay Chippewa Tribal College	57,866	66,898	65,537	70,927	75,442
Salish Kootenai College	157,085	184,531	238,860	209,474	222,808
Si Tanka University	0	0	0	0	0
Sinte Gleska University	161,028	181,103	168,492	167,097	177,733
Sisseton Whapeton Community College	75,442	85,121	81,280	89,608	95,312
Sitting Bull College	96,469	111,101	104,421	116,245	123,644
Southwest Indian Polytechnic Institute	166,120	176,051	164,084	193,907	206,250
Institutions	Fiscal Year 2009 Actual	Fiscal Year 2010 Actual	Fiscal Year 2011 Actual	Fiscal Year 2012 (Est.)	Fiscal Year 2013 (Est.)
Stone Child College	95,319	110,380	104,736	115,726	123,092
Tohono O'Odham Community College	66,571	73,213	72,779	80,614	85,745
Turtle Mountain Community College	162,835	176,592	162,195	199,961	212,689
United Tribes Technical College	161,849	154,041	165,658	190,275	202,386
White Earth Tribal and Community College	60,165	64,012	66,010	71,274	75,811
Subtotal, Interest Payments to Colleges	3,669,843	4,096,122	4,134,719	4,553,365	4,843,200
Federal Administration	152,910	170,672	172,294	189,709	201,800
Total Endowment Interest	3,822,753	4,266,794	4,307,013	4,743,074	5,045,000

Agriculture and Food Research Initiative- AFRI

Mr. Kingston: Please update the table provided in the fiscal year 2012 hearing record of grants by category made through AFRI for fiscal years 2009 through 2012.

Response: Grant awards data for FY 2012 will be available at the end of the fiscal year. Information on number of grants and dollars per category for 2009 through 2011 awards is available. The information is submitted for the record.

[The information follows:]

Category	2009 (#)	2009 ($)	2010 (#)	2010 ($)	2011 (#)	2011 ($)	Total (#)	Total ($)
Plant Health and Production and Plant Products	172	$65,558,457	71	$47,472,059	66	$61,654,360	309	$174,684,876
Animal Health and Production and Animal Products	103	39,581,244	49	18,060,684	26	11,843,439	178	69,485,367
Food Safety, Nutrition, And Health	66	31,960,328	79	59,492,916	65	99,336,714	210	190,789,958
Renewable Energy, Natural Resources, and Environment	87	27,373,769	52	33,465,565	37	27,512,422	176	88,351,756
Agriculture Systems and Technology	26	9,895,000	34	11,772,141	17	9,676,900	77	31,344,041
Agriculture Economics and Rural Communities	34	10,400,000	47	24,866,875	38	15,498,450	119	50,765,325
Total	488	184,768,798	332	195,130,240	249	225,522,285	1,069	605,421,323

AFRI Recipients

Mr. Kingston: Please provide an additional table that further breaks down AFRI by programs with categories and recipients for fiscal years 2009 through 2012.

Response: The information is submitted for the record.

[The information follows:]

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04096	$286,567	North Carolina State University
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04097	$317,388	Cornell University
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04101	$291,332	Purdue University
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04121	$199,248	University of Connecticut
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04125	$360,261	University of Rhode Island
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04126	$376,342	Kansas State University
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04130	$299,542	North Dakota State University
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04135	$399,331	University of Idaho
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04137	$209,627	Virginia Polytechnic Institute and State University
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04140	$239,932	Arizona Board of Regents, University of Arizona
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04141	$309,378	California Polytechnic State University
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04144	$239,415	Oregon State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04153	$140,034	Oklahoma State University
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04157	$292,806	University of Wisconsin
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04160	$360,396	Iowa State University
2009	Agriculture Economics and Rural Communities	Agribusiness Markets and Trade	2009-04161	$278,401	University of Washington
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04614	$396,120	University of Pennsylvania
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04615	$10,000	University of Georgia
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04616	$340,294	Michigan State University
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04639	$409,804	Louisiana State University Agricultural Center
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04650	$499,949	Rutgers, The State University of New Jersey
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04652	$500,000	Oregon State University
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04655	$404,966	University of Connecticut
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04661	$498,233	Louisiana State University Agricultural Center

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04665	$397,492	The Ohio State University
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04670	$496,310	University of Wisconsin
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04673	$338,541	University of Vermont and State Agricultural College
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04676	$428,420	University of Massachusetts
2009	Agriculture Economics and Rural Communities	Agricultural Prosperity for Small and Medium-sized Farms	2009-04677	$79,871	University of Kentucky
2009	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2009-06091	$71,307	University of New Hampshire
2009	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2009-06097	$390,028	Louisiana State University and A&M College
2009	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2009-06102	$71,307	University of Central Florida
2009	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2009-06123	$396,051	University of Vermont
2009	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2009-06143	$71,307	University of North Carolina at Chapel Hill
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04708	$397,530	University of Missouri
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04709	$49,938	USDA - Economic Research Service

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04710	$149,950	University of Wyoming
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04711	$183,334	Mississippi State University
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04714	$500,000	Louisiana State University Agricultural Center
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04715	$499,982	University of Florida
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04719	$486,327	Baylor University
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04723	$498,496	Oregon State University
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04733	$47,000	USDA - Economic Research Service
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04734	$436,959	Clemson University
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04745	$500,000	University of Oregon
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04751	$499,023	University of Missouri
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04753	$499,334	Kansas State University
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04754	$142,234	North Carolina State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04756	$343,931	The Ohio State University
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04759	$438,015	University of Idaho
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04765	$472,669	University of Vermont
2010	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2010-04770	$366,519	Fayetteville State University
2010	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04236	$892,402	Cornell University
2010	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04237	$654,665	USDA - Agricultural Research Service
2010	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04251	$1,871,769	University of Florida
2010	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04261	$867,952	Univ of Nebraska-Lincoln
2010	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04265	$1,990,559	Washington State University
2010	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04269	$1,990,964	University of Arkansas
2010	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04299	$415,647	Duke University
2010	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04321	$1,662,428	University of Minnesota

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Agriculture Economics and Rural Communities	Climate Change: Regional Approaches to Climate Change: Planning	2010-03364	$50,000	Texas A&M University
2010	Agriculture Economics and Rural Communities	Climate Change: Regional Approaches to Climate Change: Planning	2010-03371	$50,000	Colorado State University
2010	Agriculture Economics and Rural Communities	Climate Change: Regional Approaches to Climate Change: Planning	2010-03379	$50,000	University of California
2010	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2009-06091	$328,561	University of New Hampshire
2010	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2009-06102	$316,249	University of Central Florida
2010	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2009-06143	$308,342	University of North Carolina at Chapel Hill
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04804	$385,110	University of Tennessee
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04805	$499,677	Oklahoma State University
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04808	$86,429	Mississippi State University
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04810	$114,956	Texas A&M University
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04811	$225,882	Clemson University
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04815	$252,718	Auburn University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04819	$279,464	University of Hawaii
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04824	$288,185	Iowa State University
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04831	$410,575	Arizona Board of Regents, University of Arizona
2010	Agriculture Economics and Rural Communities	Foundational Program: Economics of Markets and Development	2010-04833	$292,112	University of Wisconsin
2010	Agriculture Economics and Rural Communities	Interagency Climate Change	2011-00827	$848,000	Chapman University
2010	Agriculture Economics and Rural Communities	Interagency Climate Change	2011-00828	$789,000	Florida State University
2010	Agriculture Economics and Rural Communities	Interagency Climate Change	2011-00836	$1,534,000	The Center for Research on the Changing Earth System (CRCES)
2010	Agriculture Economics and Rural Communities	Interagency Climate Change	2011-00837	$700,000	UChicago Argonne LLC
2010	Agriculture Economics and Rural Communities	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03883	$199,988	Colorado State University
2011	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2011-03658	$1,000,000	Cornell University
2011	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2011-03683	$860,000	Univ of Nebraska-Lincoln
2011	Agriculture Economics and Rural Communities	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2011-05790	$220,000	Duke University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02675	$498,000	Alabama A&M University
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Development	2011-02697	$499,999	Auburn University
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02748	$496,166	University Of Arkansas
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Environment	2011-02737	$499,715	Winrock International Institute For Agricultural Development
2011	Agriculture Economics and Rural Communities	Markets and Trade	2011-02763	$387,365	Arizona State University
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02691	$149,980	University of Connecticut
2011	Agriculture Economics and Rural Communities	Markets and Trade	2011-02712	$318,103	University of Connecticut
2011	Agriculture Economics and Rural Communities	Markets and Trade	2011-02759	$498,287	Iowa State University
2011	Agriculture Economics and Rural Communities	Markets and Trade	2011-02756	$24,000	Iowa State University
2011	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2011-03802	$332,295	University of Iowa
2011	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2011-03804	$304,180	Purdue University
2011	Agriculture Economics and Rural Communities	Small Business Development	2011-02732	$408,889	Kansas State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02672	$498,261	Kansas State University
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02673	$349,999	University of Kentucky
2011	Agriculture Economics and Rural Communities	Entrepreneurship and Small Business Development	2011-02746	$349,715	University of Kentucky
2011	Agriculture Economics and Rural Communities	Environment	2011-02720	$49,988	Clark University
2011	Agriculture Economics and Rural Communities	Environment	2011-02717	$498,281	Michigan State University
2011	Agriculture Economics and Rural Communities	Entrepreneurship and Small Business Development	2011-02751	$498,460	University of Missouri
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02738	$498,434	University of Missouri
2011	Agriculture Economics and Rural Communities	Markets and Trade	2011-02716	$175,585	Mississippi State University
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02740	$498,539	University of North Carolina
2011	Agriculture Economics and Rural Communities	Markets and Trade	2011-02736	$348,676	Cornell University
2011	Agriculture Economics and Rural Communities	Rural Development	2011-02702	$499,094	Cornell University
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02679	$499,917	Cornell University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02669	$453,004	New York University
2011	Agriculture Economics and Rural Communities	Disaster Resilience for Rural Communities	2011-03805	$363,525	University of Oregon
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02674	$407,444	Pennsylvania State University
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02677	$185,403	Texas A&M University
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02671	$408,472	Texas AgriLife Extension Service
2011	Agriculture Economics and Rural Communities	Entrepreneurship and Small Business Development	2011-02694	$300,233	University of Vermont and State Agricultural College
2011	Agriculture Economics and Rural Communities	Agriculture Economics and Rural Communities: Small and Medium-Sized Farms	2011-02678	$499,991	University of Wyoming
	Agriculture Economics and Rural Communities Total			**$49,146,875**	
2009	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-03451	$61,000	University of New Hampshire
2009	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-03453	$500,000	Rutgers, The State University of New Jersey
2009	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-03455	$488,000	University of Massachusetts

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-03458	$498,000	Cornell University
2009	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-03459	$454,000	University of Massachusetts
2009	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-03476	$499,000	University of Tennessee
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02184	$498,889	USDA - Agricultural Research Service
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02195	$494,702	USDA - Agricultural Research Service
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02200	$442,040	USDA - Forest Service
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02202	$499,973	Cornell University
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02209	$445,395	Virginia Polytechnic Institute and State University
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02283	$477,561	South Dakota School of Mines and Technology
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02288	$484,378	University of Wisconsin
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02297	$499,013	Oregon State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02798	$28,976	University of Alaska Fairbanks
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02800	$150,000	South Dakota State University
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02805	$150,000	University of Hawaii
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02809	$150,000	Auburn University
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02813	$500,000	Colorado State University
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02827	$10,000	Board of Regents of the University of Oklahoma
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02829	$20,223	South Dakota State University
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02831	$43,850	South Dakota School of Mines and Technology
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-02832	$500,000	Virginia Polytechnic Institute and State University
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-04815	$705,000	University of Georgia
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-04818	$652,000	Michigan Technological University
2009	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2009-04830	$643,000	University of Florida

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-03451	$286,500	University of New Hampshire
2010	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-03461	$404,000	Purdue University
2010	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-03466	$300,000	University of California
2010	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-05266	$490,000	University of Massachusetts Amherst
2010	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-05267	$522,000	The Ohio State University
2010	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-05268	$599,000	University of Missouri
2010	Agriculture Systems and Technology	Agriculture Systems and Technology: Nanotechnology for Agricultural and Food Systems	2010-05269	$599,000	Louisiana State University Agricultural Center
2010	Agriculture Systems and Technology	Biobased Products and Bioenergy Production Research	2010-03617	$250,000	Michigan Technological University
2010	Agriculture Systems and Technology	Foundational Program: Engineering Approaches for Improved or Alternative Management Systems to Safeguard Animal Welfare	2010-04421	$545,092	Purdue University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Agriculture Systems and Technology	Foundational Program: Engineering Approaches for Improved or Alternative Management Systems to Safeguard Animal Welfare	2010-04423	$700,000	Iowa State University
2010	Agriculture Systems and Technology	Foundational Program: Engineering Approaches for Improved or Alternative Management Systems to Safeguard Animal Welfare	2010-04424	$700,000	Iowa State University
2010	Agriculture Systems and Technology	Foundational Program: Engineering Approaches for Improved or Alternative Management Systems to Safeguard Animal Welfare	2010-04425	$699,487	Michigan State University
2010	Agriculture Systems and Technology	Foundational Program: Engineering Approaches for Improved or Alternative Management Systems to Safeguard Animal Welfare	2010-04427	$238,500	University of Delaware
2010	Agriculture Systems and Technology	Foundational Program: Engineering Approaches for Improved or Alternative Management Systems to Safeguard Animal Welfare	2010-04438	$455,921	University of Minnesota
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Investing in America's Scientific Corps: Stimulating a New Era of Students and Faculty in Bioenergy	2010-03919	$999,999	Cornell University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Investing in America's Scientific Corps: Stimulating a New Era of Students and Faculty in Bioenergy	2010-03988	$832,912	University of Wisconsin

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03874	$200,000	South Dakota State University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03891	$199,870	Louisiana State University Agricultural Center
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03948	$150,000	South Dakota State University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03996	$42,919	South Dakota School of Mines and Technology
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04017	$197,650	South Dakota State University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04019	$200,000	Auburn University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04025	$199,373	University of Kentucky
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04027	$42,878	University of Idaho
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04031	$199,999	Utah State University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04033	$199,999	Pennsylvania State University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04036	$199,673	University of California
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04045	$198,819	USDA - Forest Service

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04046	$199,991	University of Minnesota
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04055	$198,515	University of Minnesota
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04057	$181,994	Virginia Polytechnic Institute and State University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04061	$199,820	Michigan State University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04081	$188,369	Kansas State University
2010	Agriculture Systems and Technology	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04180	$149,861	Clemson University
2011	Agriculture Systems and Technology	Sustainable Bioenergy: Development and Sustainable Production of Regionally Appropriate Biomass Feedstocks	2010-05061	$2,850,000	The University of Tennessee
2011	Agriculture Systems and Technology	Nanotechnology for Agriculture and Food Systems	2011-03579	$479,602	NASA
2011	Agriculture Systems and Technology	Nanotechnology for Agriculture and Food Systems	2011-03518	$473,805	Connecticut Agricultural Experiment Station
2011	Agriculture Systems and Technology	Nanotechnology for Agriculture and Food Systems	2011-03569	$499,943	University of Connecticut
2011	Agriculture Systems and Technology	Engineering Products and Processes	2011-03670	$480,564	Iowa State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2011	Agriculture Systems and Technology	Nanotechnology for Agriculture and Food Systems	2011-03539	$379,645	University of Massachusetts
2011	Agriculture Systems and Technology	Engineering Products and Processes	2011-03651	$480,000	University of Minnesota
2011	Agriculture Systems and Technology	Nanotechnology for Agriculture and Food Systems	2011-03512	$499,881	Cornell University
2011	Agriculture Systems and Technology	Engineering Products and Processes	2011-03545	$497,000	Cornell University
2011	Agriculture Systems and Technology	Nanotechnology for Agriculture and Food Systems	2011-03580	$149,645	Clemson University
2011	Agriculture Systems and Technology	Nanotechnology for Agriculture and Food Systems	2011-03581	$499,915	Utah State University
	Agriculture Systems and Technology Total			**$28,957,141**	
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-02027	$625,000	USDA - Agricultural Research Service
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-02028	$625,000	Bovine Functional Genomics Laboratory
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03290	$388,343	University of Georgia
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03293	$130,000	University of Missouri
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03295	$443,491	Michigan State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03296	$689,921	Michigan State University
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03299	$597,902	Texas AgriLife Research
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03303	$970,000	Georgetown University
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03305	$930,000	Utah State University/Utah Agricultural Experiment Station
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03306	$450,000	Pennsylvania State University
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03310	$681,145	University of Maryland
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03311	$908,280	Virginia Polytechnic Institute and State University
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03314	$449,939	Iowa State University
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03318	$341,755	USDA - Agricultural Research Service
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03323	$749,502	North Carolina State University
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03327	$800,000	Auburn University
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03338	$749,975	USDA - Agricultural Research Service

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2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03340	$10,000	University of Illinois at Urbana-Champaign
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03346	$449,747	University of Wisconsin
2009	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2009-03360	$10,000	University of Missouri
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05554	$134,079	University of Idaho
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05556	$149,707	University of Kentucky
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05567	$349,421	Iowa State University
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05576	$319,883	South Dakota State University
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05586	$349,476	Pennsylvania State University
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05593	$349,326	Arizona Board of Regents, University of Arizona
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05599	$260,987	Utah State University/Utah Agricultural Experiment Station
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05604	$125,000	Oklahoma State University
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05605	$349,983	Cornell University

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2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05606	$349,992	Pennsylvania State University
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05609	$348,836	Auburn University
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05617	$349,560	California State University, Fresno Foundation
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05619	$350,000	The Ohio State University
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05627	$350,000	University of North Florida
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05629	$350,000	West Virginia University
2009	Animal Health and Production and Animal Products	Animal Growth and Nutrient Utilization	2009-05659	$10,000	University of Wyoming
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01454	$10,000	USDA - Agricultural Research Service
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01615	$375,000	Purdue University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01623	$375,000	Texas AgriLife Research
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01636	$375,000	Michigan State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01637	$375,000	USDA - Agricultural Research Service

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2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01642	$200,000	Colorado State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01650	$360,000	University of Vermont and State Agricultural College
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01659	$375,000	USDA - Agricultural Research Service
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01662	$10,000	American Association of Veterinary Immunologists
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01727	$26,000	University of Idaho
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01744	$200,000	University of Kentucky
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01745	$375,000	Cornell University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01748	$375,000	Cornell University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01757	$10,000	University of Minnesota
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01780	$375,000	The Ohio State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01784	$375,000	The Ohio State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01786	$125,000	University of Nevada, Las Vegas

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2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2009-01795	$375,000	Washington State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Health	2010-02690	$10,000	American Association of Veterinary Immunologists
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01599	$370,000	Beckman Research Institute of the City of Hope
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01604	$370,000	Cornell University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01607	$150,000	University of Connecticut
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01614	$372,000	University of Connecticut
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01626	$375,000	Oklahoma State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01628	$200,000	Colorado State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01653	$375,000	University of Nebraska-Lincoln, Board of Regents
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01654	$371,230	University of Nebraska-Lincoln, Board of Regents
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01665	$375,000	Michigan State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01669	$375,000	USDA - Agricultural Research Service

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2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01742	$374,770	Mississippi State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01778	$150,000	BOISE STATE UNIVERSITY
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01789	$375,000	University of Massachusetts Dartmouth
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01801	$372,000	Arizona Board of Regents, University of Arizona
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01818	$370,000	University of Mississippi Medical Center
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01824	$375,000	Kansas State University
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Animal Well-Being	2009-01827	$362,000	University of Maryland
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Tools and Resources	2009-05383	$10,000	Gordon Research Conferences
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Tools and Resources	2009-05819	$575,000	University of Massachusetts Amherst
2009	Animal Health and Production and Animal Products	Animal Health and Well-Being: Tools and Resources	2009-05906	$87,000	Conference of Research Workers in Animal Diseases
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01591	$25,000	University of Wyoming
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01677	$315,000	Purdue University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01680	$340,000	Colorado State University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01682	$124,610	University of Texas at Austin Marine Science Institute
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01691	$349,260	University of Florida
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01693	$349,782	Michigan State University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01711	$125,000	Colorado State University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01712	$349,082	Colorado State University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01713	$325,000	Pennsylvania State University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01722	$349,287	Texas A&M University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01731	$338,086	Texas AgriLife Research
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01764	$349,503	University of Tennessee
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01766	$330,000	West Virginia University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01849	$325,000	University of Texas at Austin

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2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01853	$146,757	West Virginia University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01921	$10,000	North Dakota State University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01923	$320,000	North Dakota State University
2009	Animal Health and Production and Animal Products	Animal Reproduction	2009-01925	$28,633	North Dakota State University
2009	Animal Health and Production and Animal Products	Global Food Security: Minimizing Losses from Dairy Diseases with Major Impact on Production, Marketing, and/or Trade	2010-04744	$1,600,000	University of Maryland
2009	Animal Health and Production and Animal Products	Global Food Security: Minimizing Losses from Dairy Diseases with Major Impact on Production, Marketing, and/or Trade	2010-04782	$1,200,000	Kansas State University
2009	Animal Health and Production and Animal Products	Global Food Security: Minimizing Losses from Dairy Diseases with Major Impact on Production, Marketing, and/or Trade	2010-04784	$1,200,000	Pennsylvania State University
2009	Animal Health and Production and Animal Products	Integrated Solutions for Animal Ag	2009-05159	$1,000,000	University of Florida
2009	Animal Health and Production and Animal Products	Integrated Solutions for Animal Ag	2009-05164	$900,000	University of Illinois at Urbana-Champaign
2009	Animal Health and Production and Animal Products	Integrated Solutions for Animal Ag	2009-05165	$629,106	Washington State University

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2009	Animal Health and Production and Animal Products	Integrated Solutions for Animal Ag	2009-05192	$1,000,000	University of Wisconsin
2009	Animal Health and Production and Animal Products	Integrated Solutions for Animal Ag	2009-05382	$470,894	University of Vermont
2009	Animal Health and Production and Animal Products	Rapid Response Food and Agricultural Science for Emerging Issues	2009-05478	$249,994	University of Illinois at Chicago
2009	Animal Health and Production and Animal Products	Rapid Response Food and Agricultural Science for Emerging Issues	2009-05759	$250,000	TEXAS A&M UNIVERSITY-KINGSVILLE
2010	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2010-03610	$625,000	USDA - Agricultural Research Service
2010	Animal Health and Production and Animal Products	Animal Genome, Genetics and Breeding	2010-04087	$625,000	USDA - Agricultural Research Service
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04519	$419,388	University of Connecticut
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04521	$749,891	Texas A&M University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04522	$495,050	University of Minnesota
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04523	$678,000	USDA - Agricultural Research Service

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04524	$617,428	USDA - Agricultural Research Service
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04525	$733,845	Mississippi State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04534	$467,290	University of Wisconsin
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04538	$677,108	Michigan State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04543	$17,000	Texas A&M University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04544	$10,000	Gordon Research Conferences
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Breeding, Genetics, and Genomics	2010-04545	$10,000	University of Illinois
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03425	$234,125	University of Delaware
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03437	$499,000	Virginia Polytechnic Institute and State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03445	$495,000	University of Connecticut

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03448	$500,000	Virginia Polytechnic Institute and State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03493	$499,500	Mississippi State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03495	$490,000	Univ. of Calif., U.C. San Diego
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03496	$500,000	University of Tennessee
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03497	$495,000	University of Maryland
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03506	$480,375	Michigan State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03509	$478,500	University of Wisconsin
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03517	$131,500	Clemson University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03520	$13,375	University of Kentucky
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03521	$10,000	University of Georgia
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03522	$15,000	American Fisheries Society
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03523	$20,000	American Association of Veterinary Immunologists

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2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03538	$12,000	North Carolina State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Health and Disease	2010-03539	$13,000	University of Kentucky
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03187	$150,000	Middlebury College
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03193	$150,000	University of Rhode Island
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03196	$499,937	Purdue University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03207	$341,252	University of Missouri
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03215	$10,000	Pennsylvania State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03217	$498,286	Oregon State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03220	$500,000	Texas A&M University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03221	$486,870	Utah State University/Utah Agricultural Experiment Station
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03237	$499,937	Colorado State University
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03238	$500,000	University of Nebraska Medical Center

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2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03241	$396,826	University of Illinois at Urbana-Champaign
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03243	$415,936	USDA - Agricultural Research Service
2010	Animal Health and Production and Animal Products	Animal Health and Production and Animal Products: Animal Reproduction	2010-03251	$427,893	University of Missouri
2010	Animal Health and Production and Animal Products	Animal Reproduction	2011-00906	$191,172	West Virginia University
2010	Animal Health and Production and Animal Products	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04233	$831,200	University of Delaware
2010	Animal Health and Production and Animal Products	Climate Change: Impacts of Climate Change on Animal Health and Production	2010-04362	$1,000,000	Iowa State University
2010	Animal Health and Production and Animal Products	Climate Change: Regional Approaches to Climate Change: Planning	2010-03361	$50,000	Purdue University
2010	Animal Health and Production and Animal Products	Climate Change: Regional Approaches to Climate Change: Planning	2010-03365	$50,000	Univ of Nebraska-Lincoln
2010	Animal Health and Production and Animal Products	Climate Change: Regional Approaches to Climate Change: Planning	2010-03387	$50,000	Michigan State University
2011	Animal Health and Production and Animal Products	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2011-03655	$1,000,000	University of Delaware
2011	Animal Health and Production and Animal Products	Sustainable Bioenergy: Development and Sustainable Production of Regionally Appropriate Biomass Feedstocks	2010-05066	$7,600,000	Washington State University
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-02881	$490,000	University of California

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2011	Animal Health and Production and Animal Products	Animal Reproduction	2011-03120	$449,258	Colorado State University
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-02824	$149,288	University of Connecticut
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-02814	$140,000	University of Connecticut
2011	Animal Health and Production and Animal Products	Dual use of animals for dual benefit	2011-04429	$1,794,872	University of Florida
2011	Animal Health and Production and Animal Products	Animal Reproduction	2011-03138	$20,000	University of Florida
2011	Animal Health and Production and Animal Products	Dual use of animals for dual benefit	2011-04431	$1,602,564	University of Massachusetts Amherst
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-02255	$10,000	USDA - Agricultural Research Service
2011	Animal Health and Production and Animal Products	Animal Reproduction	2011-03158	$375,000	University of Minnesota
2011	Animal Health and Production and Animal Products	Animal Breeding, Genetics, and Genomics	2011-03111	$16,000	Mississippi State University
2011	Animal Health and Production and Animal Products	Animal Reproduction	2011-03119	$430,408	North Carolina State University
2011	Animal Health and Production and Animal Products	Animal Reproduction	2011-03143	$393,108	North Dakota State University
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-02917	$484,245	University of Nebraska

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-02841	$494,000	Cornell University
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-03172	$490,000	Ohio State University
2011	Animal Health and Production and Animal Products	Animal Reproduction	2011-03114	$498,226	Pennsylvania State University
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-02837	$500,000	USDA Agricultural Research Service
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-02256	$10,000	University of Kentucky
2011	Animal Health and Production and Animal Products	Animal Health and Disease	2011-02795	$10,000	South Dakota State University
2011	Animal Health and Production and Animal Products	Improved Nutritional Performance, Growth, and Lactation	2011-03013	$9,906	Texas AgriLife Research
2011	Animal Health and Production and Animal Products	Dual use of animals for dual benefit	2011-04430	$1,602,564	Washington State University
2011	Animal Health and Production and Animal Products	Animal Reproduction	2011-03136	$499,000	Washington State University
	Animal Health and Production and Animal Products Total			**$76,710,367**	
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02903	$499,123	Yale University
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02907	$499,461	Pennsylvania State University

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2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02916	$346,140	Tufts University
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02919	$125,000	Louisiana State University Agricultural Center
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02925	$499,237	Children`s Hospital & Research Center at Oakland
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02930	$499,980	Tufts University
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02931	$463,742	Purdue University
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02932	$500,000	Oregon State University
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02937	$999,992	North Carolina State University
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02941	$149,893	Texas Woman`s University
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02942	$149,722	Texas Woman`s University
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02943	$10,000	University of Tennessee
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02944	$7,500	Arizona Board of Regents, University of Arizona
2009	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2009-02961	$318,567	University of Illinois at Urbana-Champaign

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2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03553	$397,498	Cornell University
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03556	$92,950	USDA - Agricultural Research Service
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03561	$399,154	University of Georgia
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03570	$359,852	Illinois Institute of Technology
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03571	$398,874	North Carolina State University
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03575	$149,946	University of Wyoming
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03576	$366,107	University of Connecticut
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03579	$399,954	The TAMUS Health Science Center Research Foundation
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03589	$124,911	University of Florida
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03594	$393,960	University of California
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03611	$397,256	Pennsylvania State University
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03616	$124,033	Arizona Board of Regents, University of Arizona

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2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03768	$125,000	University of Michigan
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03770	$399,437	Texas Engineering Experiment Station
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03782	$399,924	The Ohio State University
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-03960	$399,790	The Ohio State University
2009	Food Safety, Nutrition, and Health	Food Safety: Biological Approaches	2009-04336	$393,841	University of Wisconsin
2009	Food Safety, Nutrition, and Health	Food Safety: Epidemiological Approaches	2009-04248	$1,000,000	Washington State University
2009	Food Safety, Nutrition, and Health	Food Safety: Epidemiological Approaches	2009-04256	$1,250,000	Emory University
2009	Food Safety, Nutrition, and Health	Food Safety: Epidemiological Approaches	2009-04343	$1,077,639	Southern University Agricultural Research & Extension Center
2009	Food Safety, Nutrition, and Health	Food Safety: Epidemiological Approaches	2010-05285	$1,250,000	Iowa State University
2009	Food Safety, Nutrition, and Health	Food Safety: Practical Approaches for Food Protection	2009-04261	$299,874	Texas AgriLife Research
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-01455	$10,000	Society for Nutrition Education
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05050	$1,400,000	University of Pennsylvania

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2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05053	$1,450,000	University of California
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05055	$1,100,000	University of Nevada, Reno
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05056	$1,497,055	Teachers College, Columbia University
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05062	$499,927	Cornell University
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05065	$1,000,000	University of Miami
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05068	$1,211,949	Johns Hopkins University
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05106	$432,171	University of Missouri
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05111	$900,000	University of Tennessee
2009	Food Safety, Nutrition, and Health	Human Nutrition and Obesity	2009-05124	$1,498,898	Colorado State University
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02320	$472,947	Cornell University
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02322	$473,870	Iowa State University
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02331	$370,890	Purdue University

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2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02335	$469,596	Rutgers, The State University of New Jersey
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02343	$449,367	Pennsylvania State University
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02344	$293,042	University of Georgia
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02347	$443,457	USDA - Agricultural Research Service
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02350	$182,715	University of Florida
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02351	$374,798	University of Hawaii
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02358	$150,000	North Carolina Central University
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02359	$98,495	University of Connecticut
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02370	$425,000	USDA - Agricultural Research Service
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02377	$282,290	Utah State University
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02381	$12,500	University of Idaho
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02383	$32,976	North Dakota State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02400	$192,084	Texas Tech University
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02403	$449,976	Rutgers, The State University of New Jersey
2009	Food Safety, Nutrition, and Health	Improving Food Quality and Value	2009-02414	$469,968	The Florida State University
2009	Food Safety, Nutrition, and Health	Rapid Response Food and Agricultural Science for Emerging Issues	2010-05347	$48,000	University of Hawaii
2010	Food Safety, Nutrition, and Health	Bioactive Food Components for Optimal Health	2010-03553	$179,842	University of Illinois
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Community-based Childhood Obesity Prevention	2010-04888	$4,869,895	University of Hawaii
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Extension Interventions to Prevent Childhood Obesity	2010-04583	$947,093	Univ of Nebraska-Lincoln
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Extension Interventions to Prevent Childhood Obesity	2010-04602	$950,000	University of Illinois at Chicago
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04614	$970,000	Oregon State University
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04615	$370,202	Baylor College of Medicine

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04627	$825,322	New York University School of Medicine
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04628	$860,000	Tennessee State University
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04640	$545,000	North Carolina State University
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04641	$950,000	University of California, Davis
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04643	$515,055	Temple University of the Commonwealth System of Higher Educa
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04646	$890,000	Rutgers, the State University of New Jersey
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04651	$149,970	California State University, Chico

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2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04655	$990,000	Texas AgriLife Extension
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04656	$808,190	West Virginia University
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04667	$780,000	Wayne State University
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04682	$900,000	University of Arkansas
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04684	$591,157	Kansas State University
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04689	$49,975	University of Maryland
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04697	$718,006	Utah State University

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2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated Research, Education, and Extension to Prevent Childhood Obesity	2010-04785	$990,000	University of Michigan
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Methodological Research to Assess the Effectiveness of Obesity Prevention Strategies	2010-03181	$50,000	National Nutrient Databank Steering Committee Inc
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Methodological Research to Assess the Effectiveness of Obesity Prevention Strategies	2010-04578	$2,000,000	The Social & Health Research Center
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Methodological Research to Assess the Effectiveness of Obesity Prevention Strategies	2010-04581	$149,997	Fairleigh Dickinson University
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Transdisciplinary Graduate Education and Training in Nutrition and Family Sciences or Child Development or Related Fields to Prevent Childhood Obesity	2010-04883	$825,033	South Dakota State University

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2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Transdisciplinary Graduate Education and Training in Nutrition and Family Sciences or Child Development or Related Fields to Prevent Childhood Obesity	2010-04885	$750,000	California State University, Long Beach Foundation
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Transdisciplinary Graduate Education and Training in Nutrition and Family Sciences or Child Development or Related Fields to Prevent Childhood Obesity	2010-04886	$900,000	University of Illinois at Urbana-Champaign
2010	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Transdisciplinary Graduate Education and Training in Nutrition and Family Sciences or Child Development or Related Fields to Prevent Childhood Obesity	2010-04894	$900,000	Pennsylvania State University
2010	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2010-04409	$299,953	The Connecticut Agricultural Experiment Station
2010	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2010-04410	$299,986	University of Connecticut
2010	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2010-04413	$299,505	Arizona Board of Regents, University of Arizona

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2010	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2010-04418	$299,988	University of Iowa
2010	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2010-04461	$266,226	USDA - Agricultural Research Service
2010	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2010-04464	$40,000	American Society for Microbiology
2010	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2010-04471	$450,365	Texas Woman`s University
2010	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2010-04488	$50,000	University of North Carolina at Charlotte
2010	Food Safety, Nutrition, and Health	Food Safety: Food Processing Technologies to Destroy Food-borne Pathogens	2010-04443	$999,933	University of Delaware
2010	Food Safety, Nutrition, and Health	Food Safety: Food Processing Technologies to Destroy Food-borne Pathogens	2010-04444	$999,861	University of Georgia
2010	Food Safety, Nutrition, and Health	Food Safety: Food Processing Technologies to Destroy Food-borne Pathogens	2010-04477	$999,999	Washington State University
2010	Food Safety, Nutrition, and Health	Food Safety: Microbial Ecology and Shiga toxin-producing Escherichia coli (STEC) Shedding in Cattle	2010-04449	$954,804	Univ of Nebraska-Lincoln
2010	Food Safety, Nutrition, and Health	Food Safety: Microbial Ecology and Shiga toxin-producing Escherichia coli (STEC) Shedding in Cattle	2010-04451	$999,345	Michigan State University
2010	Food Safety, Nutrition, and Health	Food Safety: Microbial Ecology and Shiga toxin-producing Escherichia coli (STEC) Shedding in Cattle	2010-04487	$999,374	Washington State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Food Safety, Nutrition, and Health	Food Safety: National Education Programs for Food Safety	2010-04500	$150,000	St. Edward`s University, Inc.
2010	Food Safety, Nutrition, and Health	Food Safety: National Education Programs for Food Safety	2010-04502	$487,758	Cornell University
2010	Food Safety, Nutrition, and Health	Food Safety: National Education Programs for Food Safety	2010-04504	$50,000	West Virginia State University Research & Development Corp.
2010	Food Safety, Nutrition, and Health	Food Safety: Prevention, Detection, and Control of Food-borne Viruses in Food: A Focus on Noroviruses	2010-05021	$4,989,945	North Carolina State University
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03525	$444,949	University of Delaware
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03529	$499,972	Texas A&M University
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03530	$499,425	Cornell University
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03532	$499,685	Illinois Institute of Technology
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03542	$500,000	The Ohio State University
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03543	$499,531	University of Florida
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03544	$361,155	University of California
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03550	$499,102	University of Minnesota

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03552	$499,993	University of Wisconsin
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03621	$50,000	The American Phytopathological Society
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-03622	$12,000	USDA
2010	Food Safety, Nutrition, and Health	Foundational Program: Food-borne Pathogen Plant Interactions	2010-04499	$490,112	University of California
2010	Food Safety, Nutrition, and Health	Foundational Program: Reducing Food Allergies by Improving Food Quality	2010-04175	$500,000	Univ of Nebraska-Lincoln
2010	Food Safety, Nutrition, and Health	Foundational Program: Reducing Food Allergies by Improving Food Quality	2010-04190	$499,980	North Carolina Agricultural and Technical State University
2010	Food Safety, Nutrition, and Health	Foundational Program: Reducing Food Allergies by Improving Food Quality	2010-04213	$499,990	Florida State University
2010	Food Safety, Nutrition, and Health	Foundational Program: Reducing Food Allergies by Improving Food Quality	2010-04218	$498,993	University of Wisconsin
2010	Food Safety, Nutrition, and Health	Global Food Security: Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally	2010-03923	$50,000	Michigan State University
2010	Food Safety, Nutrition, and Health	Global Food Security: Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally	2010-03928	$995,742	University of Wyoming

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Food Safety, Nutrition, and Health	Global Food Security: Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally	2010-03933	$999,997	Pennsylvania State University
2010	Food Safety, Nutrition, and Health	Global Food Security: Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally	2010-03934	$408,220	Virginia Polytechnic Institute and State University
2010	Food Safety, Nutrition, and Health	Global Food Security: Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally	2010-03936	$374,888	University of Alaska Fairbanks
2010	Food Safety, Nutrition, and Health	Global Food Security: Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally	2010-04000	$999,829	University of Wisconsin
2010	Food Safety, Nutrition, and Health	Global Food Security: Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally	2010-04001	$997,479	North Dakota State University
2010	Food Safety, Nutrition, and Health	Global Food Security: Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally	2010-04012	$48,845	University of Alaska Fairbanks
2010	Food Safety, Nutrition, and Health	Global Food Security: Improving Sustainability by Improving Feed Efficiency of Animals	2010-04554	$1,000,000	University of Missouri

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Food Safety, Nutrition, and Health	Global Food Security: Improving Sustainability by Improving Feed Efficiency of Animals	2010-04557	$938,043	Michigan State University
2010	Food Safety, Nutrition, and Health	Global Food Security: Improving Sustainability by Improving Feed Efficiency of Animals	2010-04561	$48,914	South Dakota State University
2010	Food Safety, Nutrition, and Health	Global Food Security: Improving Sustainability by Improving Feed Efficiency of Animals	2010-04568	$938,043	Iowa State University
2010	Food Safety, Nutrition, and Health	Global Food Security: Minimizing Losses from Dairy Diseases with Major Impact on Production, Marketing, and/or Trade	2010-04432	$1,950,000	Texas A&M University
2010	Food Safety, Nutrition, and Health	Global Food Security: Oomycete Pathosystems in Crop Plants to Minimize Disease	2010-04701	$1,856,250	Virginia Polytechnic Institute and State University
2010	Food Safety, Nutrition, and Health	Global Food Security: Oomycete Pathosystems in Crop Plants to Minimize Disease	2010-04845	$1,800,000	University of California
2010	Food Safety, Nutrition, and Health	Global Food Security: Program Delivery and Implementation of Wide-area Pest Monitoring	2010-04840	$1,020,000	Pennsylvania State University
2010	Food Safety, Nutrition, and Health	Global Food Security: Program Delivery and Implementation of Wide-area Pest Monitoring	2010-04843	$150,000	University of Hawaii
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Research	2011-04557	$900,000	University of Illinois at Urbana-Champaign

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2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Research	2011-04585	$900,000	The Pennsylvania State University
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Research: FASE	2011--04545	$825,033	South Dakota State University
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Research: FASE	2011-04556	$750,000	California State University Long Beach Foundation
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04517	$3,908,865	Oregon State University
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04518	$3,824,404	Baylor College of Medicine
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04519	$3,849,032	New York University School of Medicine
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04520	$3,823,561	Tennessee State University
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04521	$2,481,939	North Carolina State University
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04522	$3,860,266	Regents of the University of California, Davis
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04523	$3,173,286	Temple University of the Commonwealth System of Higher
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04524	$3,600,000	Rutgers, The State University of NJ
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04525	$3,975,999	Texas AgriLife Extension Service

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2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04526	$3,924,771	West Virginia University
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04527	$3,636,265	Oakland University
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04529	$3,876,312	University of Arkansas
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04532	$3,909,495	Kansas State University
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04534	$3,986,807	Regents of the University of Michigan
2011	Food Safety, Nutrition, and Health	Childhood Obesity Prevention: Integrated	2011-04560	$4,945,272	University of Hawaii at Manoa
2011	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2011-04612	$1,198,127	The Connecticut Agricultural Experiment Station
2011	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2011-04614	$566,714	University of Connecticut
2011	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2011-04616	$1,189,238	Arizona Board of Regents, University of Arizona
2011	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2011-04615	$1,199,947	University of Iowa
2011	Food Safety, Nutrition, and Health	Food Safety: Addressing Critical and Emerging Food Safety Issues	2011-04613	$1,049,245	Texas Woman`s University
2011	Food Safety, Nutrition, and Health	Food Safety: Food Processing Technologies to Destroy Food-borne Pathogens	2011-04603	$999,418	University of Delaware

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2011	Food Safety, Nutrition, and Health	Food Safety: Food Processing Technologies to Destroy Food-borne Pathogens	2011-04600	$999,967	University of Georgia
2011	Food Safety, Nutrition, and Health	Food Safety: Food Processing Technologies to Destroy Food-borne Pathogens	2011-04602	$999,999	Washington State University
2011	Food Safety, Nutrition, and Health	Food Safety: Microbial Ecology and Shiga toxin-producing Escherichia coli (STEC) Shedding in Cattle	2011-04609	$1,399,200	Univ of Nebraska-Lincoln
2011	Food Safety, Nutrition, and Health	Food Safety: Microbial Ecology and Shiga toxin-producing Escherichia coli (STEC) Shedding in Cattle	2011-04610	$1,496,532	Michigan State University
2011	Food Safety, Nutrition, and Health	Food Safety: Microbial Ecology and Shiga toxin-producing Escherichia coli (STEC) Shedding in Cattle	2011-04608	$1,477,782	Washington State University
2011	Food Safety, Nutrition, and Health	Food Safety: National Education Programs for Food Safety	2011-04617	$1,963,436	Cornell University
2011	Food Safety, Nutrition, and Health	Food Safety: Prevention, Detection, and Control of Food-borne Viruses in Food: A Focus on Noroviruses	2011-04611	$4,992,558	North Carolina State University
2011	Food Safety, Nutrition, and Health	Food Safety: Prevention, Detection, and Control of Shiga toxin-producing Escherichia coli (STEC) from Pre-Harvest through Consumption in Beef Products	2010-05092	$4,999,638	University of Nebraska
2011	Food Safety, Nutrition, and Health	Sustainable Bioenergy:	2010-05073	$4,750,000	Iowa State University of Science and Technology
2011	Food Safety, Nutrition, and Health	Function and Efficacy of Nutrition	2011-03478	$289,206	University of California

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2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03025	$49,995	University of Connecticut
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03026	$500,000	Purdue University
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03083	$421,112	University of Kentucky
2011	Food Safety, Nutrition, and Health	Function and Efficacy of Nutrition	2011-03396	$480,000	Pennington Biomedical Research Center
2011	Food Safety, Nutrition, and Health	Function and Efficacy of Nutrition	2011-03389	$489,993	Tufts University
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03048	$498,809	University of Massachusetts Amherst
2011	Food Safety, Nutrition, and Health	Physical and Molecular Mechanisms of Food Contamination	2011-03620	$360,634	Michigan State University
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03069	$500,000	University of Minnesota
2011	Food Safety, Nutrition, and Health	Physical and Molecular Mechanisms of Food Contamination	2011-03618	$500,000	University of Minnesota
2011	Food Safety, Nutrition, and Health	Function and Efficacy of Nutrition	2011-03388	$489,884	North Carolina Agricultural and Technical State University
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03027	$495,038	North Carolina State University
2011	Food Safety, Nutrition, and Health	Physical and Molecular Mechanisms of Food Contamination	2011-03603	$469,772	North Carolina State University

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2011	Food Safety, Nutrition, and Health	Physical and Molecular Mechanisms of Food Contamination	2011-03590	$50,000	North Dakota State University
2011	Food Safety, Nutrition, and Health	Function and Efficacy of Nutrition	2011-03462	$489,699	University of Nebraska
	Food Safety, Nutrition, and Health	Function and Efficacy of Nutrition	2011-03436	$ 470,000	Cornell University
2011	Food Safety, Nutrition, and Health	Function and Efficacy of Nutrition	2011-03424	$489,367	Cornell University
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03089	$492,439	Ohio State University
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03076	$499,954	Ohio State University
2011	Food Safety, Nutrition, and Health	Function and Efficacy of Nutrition	2011-03386	$310,000	University of Tennessee
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-033040	$395,849	Texas A&M University
2011	Food Safety, Nutrition, and Health	Function and Efficacy of Nutrition	2011-03471	$370,351	Utah State University
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03034	$47,950	Virginia Polytechnic Institute and State University
2011	Food Safety, Nutrition, and Health	Improved Processing Technologies	2011-03100	$498,554	University of Wisconsin
2011	Food Safety, Nutrition, and Health	Improved Sustainable Food Systems	2011-04000	$999,829	University of Wisconsin

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2011	NIFA Fellowship Grant	Improving Food Safety and Post-harvest Quality	2010-05131	$130,000	Colorado State University
	Food Safety, Nutrition, and Health Total			$191,774,787	
2009	Plant Health and Production and Plant Products	Applied Plant Genomics Coordinated Agricultural Project (CAP)	2009-01878	$1,250,000	Michigan State University
2009	Plant Health and Production and Plant Products	Applied Plant Genomics Coordinated Agricultural Project (CAP)	2009-01879	$1,250,000	University of California
2009	Plant Health and Production and Plant Products	Applied Plant Genomics Coordinated Agricultural Project (CAP)	2009-01909	$955,000	University of Minnesota
2009	Plant Health and Production and Plant Products	Applied Plant Genomics Coordinated Agricultural Project (CAP)	2009-01929	$1,000,000	North Dakota State University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02070	$255,952	Washington State University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02082	$9,750	University of Minnesota
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02083	$251,119	University of Missouri
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02096	$337,783	University of California
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02102	$449,984	Northern Arizona University

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2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02167	$349,936	University of Illinois at Urbana-Champaign
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02178	$103,218	Colorado State University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02179	$449,190	Texas AgriLife Research
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02182	$305,052	Cornell University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02237	$400,000	University of Minnesota
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02247	$349,481	Dartmouth College
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02276	$136,463	University of North Carolina at Greensboro
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02305	$400,000	Rutgers, The State University of New Jersey
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02310	$348,953	University of Massachusetts Amherst

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02312	$50,000	University of Illinois at Urbana-Champaign
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02585	$344,217	Texas A&M University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02604	$350,000	University of Idaho
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02869	$320,500	Montana State University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2009-02874	$349,865	The Ohio State University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Protection of Managed Bees	2009-03066	$1,000,000	University of Georgia
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05195	$396,500	University of Georgia
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05197	$380,000	University of Texas at El Paso
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05200	$398,638	University of Nevada, Reno
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05201	$395,453	Boyce Thompson Institute for Plant Research

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2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05207	$397,348	Pennsylvania State University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05231	$365,000	Pennsylvania State University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05234	$356,037	Auburn University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05236	$399,995	Mayo Clinic Rochester d/b/a Mayo Clinic College of Medicine
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05266	$120,000	Rutgers, The State University of New Jersey
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05267	$10,000	University of Kentucky
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05278	$200,000	University of California-Davis
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05281	$329,928	Montana State University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Suborganismal Biology	2009-05284	$10,000	University of Houston
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-02606	$99,775	California State University, San Bernardino
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05229	$367,238	University of Maryland

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2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05242	$633,930	University of California
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05243	$704,044	Georgetown University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05245	$549,552	University of Florida
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05246	$86,500	USDA - Agricultural Research Service
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05254	$635,236	USDA - Agricultural Research Service
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05255	$99,500	Pennsylvania State University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05258	$99,900	USDA - Agricultural Research Service
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05271	$100,000	Tufts University
2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-05291	$150,000	University of Puerto Rico, Rio Piedras Campus

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2009	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Tools, Resources, and Genomics	2009-06067	$10,000	Gordon Research Conferences
2009	Plant Health and Production and Plant Products	Interagency Metabolic Engineering	2009-05988	$500,000	Univ of Nebraska-Lincoln
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04264	$399,000	Texas A&M University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04265	$399,000	USDA - Agricultural Research Service
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04266	$295,000	Worcester Polytechnic Institute
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04272	$295,000	Auburn University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04291	$398,000	Washington State University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04296	$399,000	Boyce Thompson Institute for Plant Research
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04305	$399,000	The Samuel Roberts Noble Foundation, Inc.
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04309	$398,000	North Carolina State University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04318	$399,000	University of New Hampshire
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04320	$399,000	Cornell University

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2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04326	$365,500	Purdue University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04332	$5,000	Michigan State University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04333	$150,000	South Carolina Research Foundation
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04364	$399,000	Iowa State University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04367	$303,500	Oregon State University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04371	$399,000	University of Washington
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04373	$399,000	Florida State University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04374	$397,000	The Broad Institute, Inc.
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04387	$5,000	Oregon State University
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04396	$399,000	University of California
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04401	$399,000	University of Idaho
2009	Plant Health and Production and Plant Products	Microbial Biology: Microbial Associations with Plants	2009-04407	$399,000	Kansas State University

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2009	Plant Health and Production and Plant Products	Microbial Genomics Functional Genomics	2009-03005	$999,900	Pennsylvania State University
2009	Plant Health and Production and Plant Products	Microbial Genomics Functional Genomics	2009-03008	$999,900	University of California
2009	Plant Health and Production and Plant Products	Microbial Genomics Functional Genomics	2009-03013	$600,000	Tufts University
2009	Plant Health and Production and Plant Products	Microbial Genomics Functional Genomics	2009-03015	$878,900	Cornell University
2009	Plant Health and Production and Plant Products	Microbial Genomics Functional Genomics	2009-03019	$552,600	University of Illinois at Urbana-Champaign
2009	Plant Health and Production and Plant Products	Microbial Genomics Functional Genomics	2009-03020	$998,400	Iowa State University
2009	Plant Health and Production and Plant Products	Microbial Genomics Functional Genomics	2009-03028	$970,300	Purdue University
2009	Plant Health and Production and Plant Products	Microbial Genomics Sequencing	2009-01473	$1,000,000	Children`s Hospital & Research Center at Oakland
2009	Plant Health and Production and Plant Products	Microbial Genomics Sequencing	2009-01493	$5,000	Iowa State University
2009	Plant Health and Production and Plant Products	Microbial Genomics Sequencing	2009-01516	$870,000	Michigan State University
2009	Plant Health and Production and Plant Products	Microbial Genomics Sequencing	2009-01518	$985,000	The Broad Institute, Inc.
2009	Plant Health and Production and Plant Products	Microbial Genomics Sequencing	2009-01533	$900,000	Virginia Polytechnic Institute and State University

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2009	Plant Health and Production and Plant Products	Microbial Genomics Sequencing	2009-01535	$740,000	University of California
2009	Plant Health and Production and Plant Products	Microbial Genomics Sequencing	2009-01550	$500,000	University of Kentucky
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-01527	$5,000	University of Minnesota
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-01580	$5,000	Gordon Research Conferences
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-01915	$7,000	University of California
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-02981	$336,000	The Samuel Roberts Noble Foundation, Inc.
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-02984	$350,000	Purdue University
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-02987	$297,000	University of California
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-02989	$348,000	Baylor University
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-03038	$350,000	Washington State University
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-03043	$350,000	The Samuel Roberts Noble Foundation, Inc.
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-03050	$350,000	The Ohio State University

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2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-03063	$350,000	Washington State University
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-03090	$10,000	Montana State University
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-03101	$350,000	Purdue University
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-03107	$317,000	Northwestern University
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-03109	$350,000	Iowa State University
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-03127	$125,000	Florida A&M University
2009	Plant Health and Production and Plant Products	Plant Biology: Biochemistry	2009-04223	$350,000	University of Georgia
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02110	$349,670	USDA - Agricultural Research Service
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02130	$348,321	Purdue University
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02133	$343,601	University of California
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02138	$349,078	Texas A&M University
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02140	$349,266	University of Illinois at Urbana-Champaign

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2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02145	$349,853	University of California
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02153	$125,000	U.S.D.A. Forest Service
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02156	$315,437	USDA - Agricultural Research Service
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02160	$10,000	Pennsylvania State University
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02162	$124,552	Tennessee State University
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02174	$93,538	Clemson University
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02235	$10,000	University of Missouri
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02245	$349,897	North Carolina State University
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02268	$349,877	University of Massachusetts
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02272	$148,831	University of Idaho
2009	Plant Health and Production and Plant Products	Plant Biology: Environmental Stress	2009-02273	$350,000	USDA - Agricultural Research Service
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03447	$349,044	Cornell University

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2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03449	$348,889	Donald Danforth Plant Science Center
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03459	$349,999	Wake Forest University
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03461	$125,000	Dartmouth College
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03474	$349,353	South Dakota State University
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03476	$350,000	University of Georgia
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03477	$321,970	University of Georgia
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03478	$349,658	University of Georgia
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03484	$347,555	USDA - Agricultural Research Service
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03486	$350,000	Duke University
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03510	$349,964	University of California
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03971	$135,000	University of Connecticut
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-03972	$125,753	The Connecticut Agricultural Experiment Station

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2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-04040	$10,000	The Ohio State University
2009	Plant Health and Production and Plant Products	Plant Biology: Growth and Development	2009-04041	$134,815	Mississippi State University
2009	Plant Health and Production and Plant Products	Plant Biosecurity	2009-02025	$10,000	Cornell University
2009	Plant Health and Production and Plant Products	Plant Biosecurity	2009-05002	$621,284	University of Nebraska-Lincoln, Board of Regents
2009	Plant Health and Production and Plant Products	Plant Biosecurity	2009-05004	$996,112	Oregon State University
2009	Plant Health and Production and Plant Products	Plant Biosecurity	2009-05007	$149,717	South Dakota State University
2009	Plant Health and Production and Plant Products	Plant Biosecurity	2009-05009	$124,989	University of New Hampshire
2009	Plant Health and Production and Plant Products	Plant Biosecurity	2009-05013	$328,714	University of Georgia
2009	Plant Health and Production and Plant Products	Plant Biosecurity	2009-05017	$914,338	Oklahoma State University
2009	Plant Health and Production and Plant Products	Plant Biosecurity	2009-05020	$999,552	University of Florida
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04814	$500,000	University of California
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04817	$497,748	University of Florida

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2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04819	$499,884	University of Georgia
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04820	$500,000	Michigan State University
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04821	$499,315	South Dakota State University
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04822	$499,994	Texas AgriLife Research
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04824	$497,672	Purdue University
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04827	$499,392	Cornell University
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04828	$500,000	University of Illinois at Urbana-Champaign
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04833	$500,000	Western Illinois University
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04834	$499,857	Louisiana State University Agricultural Center
2009	Plant Health and Production and Plant Products	Plant Breeding and Education	2009-04842	$499,386	University of Florida
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01469	$3,000	Gordon Research Conferences
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01579	$10,000	Purdue University

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2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01850	$282,000	Univ of Nebraska-Lincoln
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01860	$500,000	Purdue University
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01861	$500,000	University of California
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01863	$447,000	University of California
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01864	$448,000	University of California
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01869	$10,000	The Samuel Roberts Noble Foundation, Inc.
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01872	$450,000	USDA - Agricultural Research Service
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01881	$500,000	Cornell University
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01884	$448,000	University of Minnesota
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01886	$449,000	University of Minnesota
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01887	$450,000	Michigan State University
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01900	$5,000	University of Missouri

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2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01903	$150,000	University of Kentucky
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01907	$448,000	Oregon State University
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01916	$454,545	U.S.D.A. Forest Service
2009	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2009-01919	$441,000	Kansas State University
2010	Plant Health and Production and Plant Products	Applied Plant Genomics Coordinated Agricultural Project (CAP)	2010-03613	$1,250,000	Michigan State University
2010	Plant Health and Production and Plant Products	Applied Plant Genomics Coordinated Agricultural Project (CAP)	2010-03615	$1,000,000	North Dakota State University
2010	Plant Health and Production and Plant Products	Applied Plant Genomics Coordinated Agricultural Project (CAP)	2010-03616	$1,250,000	University of California, Davis
2010	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2010-04882	$257,000	University of Illinois
2010	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Organismal and Population Biology	2011-01737	$313,525	University of North Carolina at Greensboro
2010	Plant Health and Production and Plant Products	Arthropod and Nematode Biology and Management: Protection of Managed Bees	2010-05004	$1,000,000	University of Georgia
2010	Plant Health and Production and Plant Products	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04228	$1,999,998	University of Florida

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2010	Plant Health and Production and Plant Products	Climate Change: National Cereal Germplasm Phenotyping	2010-04348	$5,000,000	University of California
2010	Plant Health and Production and Plant Products	Climate Change: Regional Approaches to Climate Change	2010-04400	$8,000,000	Iowa State University
2010	Plant Health and Production and Plant Products	Climate Change: Regional Approaches to Climate Change	2010-04434	$4,000,000	University of Florida
2010	Plant Health and Production and Plant Products	Climate Change: Regional Approaches to Climate Change: Planning	2010-03359	$50,000	University of Wyoming
2010	Plant Health and Production and Plant Products	Climate Change: Regional Approaches to Climate Change: Planning	2010-03373	$50,000	Oregon State University
2010	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2010-03611	$500,000	University of California
2010	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2010-03612	$497,000	Purdue University
2010	Plant Health and Production and Plant Products	Plant Genome, Genetics and Breeding	2010-03614	$500,000	Cornell University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-02938	$19,000	Federation of American Societies for Experimental Biology
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-02939	$14,650	Gordon Research Conferences
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04096	$499,048	University of Florida
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04110	$498,875	USDA - Forest Service

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2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04112	$496,716	Cold Spring Harbor Laboratory
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04115	$408,795	Colorado State University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04121	$500,000	University of Minnesota
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04122	$499,538	University of Minnesota
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04128	$499,320	University of Florida
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04130	$2,500	University of Kentucky
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04138	$499,983	University of Illinois
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04140	$495,152	University of California
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04143	$499,970	University of Delaware
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04196	$480,153	University of Florida
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04200	$499,607	University of California
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04201	$10,000	Gordon Research Conferences

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2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04206	$58,832	Augustana College
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04209	$500,000	University of California
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04217	$499,680	University of North Carolina at Chapel Hill
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04223	$499,983	University of Illinois
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Biology of Agricultural Plants	2010-04284	$498,215	Mississippi State University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03689	$446,925	Cornell University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03698	$9,900	Pennsylvania State University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03705	$297,000	Pennsylvania State University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03710	$427,616	University of Rhode Island
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03720	$456,929	Pennsylvania State University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03724	$490,000	Emory University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03725	$490,900	Emory University

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2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03741	$453,658	Purdue University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03752	$445,293	Arizona Board of Regents, University of Arizona
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03755	$333,276	University of Nevada, Las Vegas
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03760	$451,014	University of Illinois
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03764	$463,035	Purdue University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03777	$297,105	The Ohio State University
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03792	$57,823	University of Kentucky
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03797	$456,364	University of Kentucky
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03805	$450,985	University of Wisconsin
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03807	$149,940	University of Kentucky
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03836	$149,861	University of Texas at San Antonio
2010	Plant Health and Production and Plant Products	Plant Health and Production and Plant Products: Insects and Nematodes	2010-03871	$30,000	University of Illinois

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: National Loblolly Pine Genome Sequencing	2010-04354	$2,925,000	University of California
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Plant Feedstock Genomics for Bioenergy	2010-03593	$1,000,000	University of Illinois at Urbana-Champaign
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Plant Feedstock Genomics for Bioenergy	2010-03594	$1,000,000	Texas A&M University
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03880	$173,601	North Carolina State University
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04150	$199,892	Louisiana State University Agricultural Center
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04151	$198,244	Michigan State University
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04156	$199,548	USDA - Agricultural Research Service
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04160	$196,964	University of Illinois at Urbana-Champaign
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04164	$194,626	USDA - Agricultural Research Service
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04167	$200,000	Virginia Polytechnic Institute and State University
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04177	$187,621	University of Arkansas
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04178	$192,922	University of Minnesota

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04183	$199,553	University of Wisconsin
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04194	$199,392	Arizona Board of Regents, University of Arizona
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04195	$199,984	University of California
2010	Plant Health and Production and Plant Products	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-04344	$199,548	Pennsylvania State University
2011	Plant Health and Production and Plant Products	Climate Change: National Cereal Germplasm Phenotyping	2011-03686	$5,000,000	University of California
2011	Plant Health and Production and Plant Products	Climate Change: Regional Approaches to Climate Change	2011-03687	$4,000,000	University of Florida
2011	Plant Health and Production and Plant Products	Sustainable Bioenergy: Development and Sustainable Production of Regionally Appropriate Biomass Feedstocks	2010-05080	$7,600,000	University of Washington
2011	Plant Health and Production and Plant Products	Biology of Agricultural Plants	2011-01853	$30,000	University of California
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-04873	$491,206	University of California
2011	Plant Health and Production and Plant Products	Controlling Weedy and Invasive Plants	2011-04271	$500,000	Colorado State University
2011	Plant Health and Production and Plant Products	Understanding Plant-Associated Microorganisms	2011-04062	$149,960	University of Connecticut

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2011	Plant Health and Production and Plant Products	Controlling Weedy and Invasive Plants	2011-04278	$35,366	National Academy of Sciences
2011	Plant Health and Production and Plant Products	Biology of Agricultural Plants	2011-02257	$8,000	University of Delaware
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-04689	$150,000	University of Hawaii
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-04894	$494,768	Iowa State University
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-04896	$466,000	Iowa State University
2011	Plant Health and Production and Plant Products	Controlling Weedy and Invasive Plants	2011-04267	$500,000	USDA - Agricultural Research Service
2011	Plant Health and Production and Plant Products	Understanding Plant-Associated Microorganisms	2011-04155	$499,760	Kansas State University
2011	Plant Health and Production and Plant Products	Understanding Plant-Associated Microorganisms	2011-04135	$149,930	University of Massachusetts Dartmouth
2011	Plant Health and Production and Plant Products	Biology of Agricultural Plants	2011-02305	$48,800	American Society for Plant Biologists
2011	Plant Health and Production and Plant Products	Biology of Agricultural Plants	2011-01590	$7,000	Michigan State University
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-04984	$150,000	Montana State University
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-04650	$452,000	Boyce Thompson Institute for Plant Research

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-04668	$400,000	Cornell University
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-04656	$462,000	Research Foundation of SUNY - University at Buffalo
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-02864	$10,000	Ohio State University
2011	Plant Health and Production and Plant Products	Controlling Weedy and Invasive Plants	2011-04283	$500,000	University of Cincinnati
2011	Plant Health and Production and Plant Products	Understanding Plant-Associated Microorganisms	2011-04073	$498,350	Oregon State University
2011	Plant Health and Production and Plant Products	Understanding Plant-Associated Microorganisms	2011-04037	$499,990	USDA - Agricultural Research Service
2011	Plant Health and Production and Plant Products	Understanding Plant-Associated Microorganisms	2011-04154	$150,000	Tennessee State University
2011	Plant Health and Production and Plant Products	Controlling Weedy and Invasive Plants	2011-04261	$500,000	Texas A&M Research Foundation
2011	Plant Health and Production and Plant Products	Insects and Nematodes	2011-04659	$499,977	Texas A&M Research Foundation
	Plant Health and Production and Plant Products Total			**$137,283,623**	
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04526	$599,879	Utah State University/Utah Agricultural Experiment Station
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04528	$597,990	California State University, Fresno Foundation

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04530	$597,806	University of Minnesota
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04537	$399,273	University of Minnesota
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04542	$597,321	Texas Tech University
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04549	$400,000	Clarkson University
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04550	$595,995	Louisiana State University Agricultural Center
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04554	$400,000	Colorado State University
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04566	$399,961	The Ohio State University
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04568	$113,724	West Texas A&M University
2009	Renewable Energy, Natural Resources, and Environment	Air Quality	2009-04609	$599,966	South Dakota State University
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04873	$495,000	University of California
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04874	$454,000	Cornell University
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04884	$494,000	University of California

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04893	$124,962	Colorado State University
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04899	$491,000	University of Minnesota
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04903	$493,000	University of Minnesota
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04906	$494,000	Auburn University
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04913	$125,000	Oregon State University
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04924	$494,000	The Ohio State University
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04931	$494,000	University of Alaska Fairbanks
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04932	$149,911	University of Alaska Anchorage
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04934	$91,423	The Ohio State University
2009	Renewable Energy, Natural Resources, and Environment	Biology of Weedy and Invasive Species in Agroecosystems	2009-04939	$199,704	Idaho State University
2009	Renewable Energy, Natural Resources, and Environment	Global Change	2010-00815	$490,300	USDA - Agricultural Research Service
2009	Renewable Energy, Natural Resources, and Environment	Global Change	2010-00816	$489,760	University of Nevada, Reno

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Renewable Energy, Natural Resources, and Environment	Global Change	2010-00955	$489,458	University of Minnesota
2009	Renewable Energy, Natural Resources, and Environment	Global Change	2010-00956	$445,092	Purdue University
2009	Renewable Energy, Natural Resources, and Environment	Global Change	2010-00957	$475,400	Michigan State University
2009	Renewable Energy, Natural Resources, and Environment	Global Change	2010-00958	$459,650	Land Stewardship Project
2009	Renewable Energy, Natural Resources, and Environment	Global Change	2010-00961	$490,353	University of Rhode Island
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04438	$115,184	Louisiana State University Agricultural Center
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04441	$10,000	Michigan State University
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04442	$363,327	New Mexico State University
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04457	$497,677	Oregon State University
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04460	$149,811	University of Nevada, Reno
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04462	$499,776	University of Illinois at Urbana-Champaign
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04463	$100,000	Oregon State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04464	$499,833	Iowa State University
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04468	$100,000	Texas AgriLife Research
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04469	$10,000	Cary Institute of Ecosystem Studies
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04473	$499,250	Iowa State University
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04482	$149,452	BOISE STATE UNIVERSITY
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04489	$499,986	University of Washington
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04490	$490,852	Oklahoma State University
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2009-04495	$44,754	North Carolina State University
2009	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2010-01075	$454,545	North Carolina State University
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02608	$10,000	Alabama A&M University
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02609	$10,000	Cary Institute of Ecosystem Studies
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02610	$10,000	University of Florida

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02612	$200,000	U.S.D.A. Forest Service
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02613	$149,828	University of New Hampshire
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02616	$253,499	University of Pennsylvania
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02621	$125,000	Iowa State University
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02626	$10,000	Colorado State University
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02628	$149,438	University of Rhode Island
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02635	$149,859	Colorado State University
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02647	$448,600	Arizona Board of Regents, University of Arizona
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02658	$449,900	University of Georgia
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02660	$349,934	South Dakota State University
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02670	$335,513	Oregon State University
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02672	$448,500	Michigan State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02677	$118,697	Louisiana State University and A&M College
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02682	$344,700	University of Florida
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02692	$449,500	University of Tennessee
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02700	$210,117	University of California
2009	Renewable Energy, Natural Resources, and Environment	Soil Processes	2009-02873	$124,983	Mississippi State University of Agriculture and Applied Science
2009	Renewable Energy, Natural Resources, and Environment	Sustainable Agroecosystem Science LTAP	2009-03100	$200,000	Purdue University
2009	Renewable Energy, Natural Resources, and Environment	Sustainable Agroecosystem Science LTAP	2009-03111	$200,000	University of Idaho
2009	Renewable Energy, Natural Resources, and Environment	Sustainable Agroecosystem Science LTAP	2009-03112	$200,000	University of California
2009	Renewable Energy, Natural Resources, and Environment	Sustainable Agroecosystem Science LTAP	2009-03113	$199,937	Texas Tech University
2009	Renewable Energy, Natural Resources, and Environment	Sustainable Agroecosystem Science LTAP	2009-03114	$199,389	Montana State University
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02419	$10,000	Ecological Society of America
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02423	$399,808	University of California

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02424	$317,950	University of Delaware
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02425	$110,352	Texas AgriLife Research
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02426	$399,945	University of Nevada, Reno
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02432	$393,297	North Dakota State University
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02439	$10,000	American Geophysical Union
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02440	$400,000	Purdue University
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02441	$112,050	Louisiana State University Agricultural Center
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02444	$261,662	Texas Tech University
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02453	$386,775	University of Illinois at Urbana-Champaign
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02467	$398,821	Mississippi State University
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02475	$400,000	Georgia Tech Research Corporation
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02877	$399,970	Michigan State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2009	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2009-02884	$299,370	Cornell University
2010	Renewable Energy, Natural Resources, and Environment	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04246	$1,749,707	University of Delaware
2010	Renewable Energy, Natural Resources, and Environment	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04256	$1,000,000	Purdue University
2010	Renewable Energy, Natural Resources, and Environment	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2010-04267	$999,925	University of California
2010	Renewable Energy, Natural Resources, and Environment	Climate Change: Regional Approaches to Climate Change	2010-04401	$8,000,000	University of Idaho
2010	Renewable Energy, Natural Resources, and Environment	Climate Change: Regional Approaches to Climate Change: Planning	2010-03362	$50,000	Arizona Board of Regents, University of Arizona
2010	Renewable Energy, Natural Resources, and Environment	Climate Change: Regional Approaches to Climate Change: Planning	2010-03368	$50,000	University of Arkansas
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Agricultural Water Science	2010-03557	$498,649	Texas A&M University
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Agricultural Water Science	2010-03559	$496,335	Texas A&M University
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Agricultural Water Science	2010-03561	$499,912	University of Hawaii
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Agricultural Water Science	2010-03574	$486,451	University of Florida
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Agricultural Water Science	2010-03577	$495,888	Michigan State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Agricultural Water Science	2010-03579	$492,797	Purdue University
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Agricultural Water Science	2010-03583	$500,000	Univ of Nebraska-Lincoln
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Agricultural Water Science	2010-03587	$500,000	University of California, Riverside
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Agricultural Water Science	2010-03591	$499,815	Colorado School of Mines
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04952	$498,000	Tufts University
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04954	$498,000	Utah State University
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04955	$400,000	North Carolina State University
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04956	$10,000	Alabama A&M University
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04967	$495,000	Michigan State University
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04970	$497,000	USDA - Agricultural Research Service
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04973	$498,000	USDA
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04981	$452,000	University of Kentucky

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04982	$250,153	University of Minnesota
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04983	$484,000	University of Minnesota
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-04985	$493,000	Georgia Tech Research Corporation
2010	Renewable Energy, Natural Resources, and Environment	Foundational Program: Microbial Communities in Soil	2010-05095	$265,507	University of Kentucky
2010	Renewable Energy, Natural Resources, and Environment	Interagency Climate Change	2011-00835	$900,000	Princeton University
2010	Renewable Energy, Natural Resources, and Environment	Interagency Climate Change	2011-01177	$3,052,996	Washington State University
2010	Renewable Energy, Natural Resources, and Environment	Interagency Climate Change	2011-01666	$2,176,080	University of Alabama, Huntsville
2010	Renewable Energy, Natural Resources, and Environment	Interagency Climate Change NASA	2011-00830	$560,117	University of Georgia
2010	Renewable Energy, Natural Resources, and Environment	Interagency Climate Change NASA	2011-00831	$367,220	University of Colorado
2010	Renewable Energy, Natural Resources, and Environment	Interagency Climate Change NASA	2011-00832	$597,383	University of Maine
2010	Renewable Energy, Natural Resources, and Environment	Interagency Climate Change NASA	2011-01033	$726,510	Iowa State University
2010	Renewable Energy, Natural Resources, and Environment	Interagency Climate Change NASA	2011-01034	$675,635	Purdue University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Renewable Energy, Natural Resources, and Environment	Interagency Climate Change NASA	2011-01036	$770,842	Oregon State University
2010	Renewable Energy, Natural Resources, and Environment	Managed Ecosystems	2010-05099	$399,910	Texas AgriLife Extension
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03838	$160,581	Washington State University
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03848	$171,600	William Marsh Rice University
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03850	$197,245	University of Georgia
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03853	$198,843	Texas A&M University
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03860	$181,958	University of California
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03865	$199,484	Pennsylvania State University
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03866	$199,739	Michigan State University
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03868	$170,968	FORT VALLEY STATE UNIVERSITY
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03869	$199,619	Cornell University
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Sustainable Bioenergy Research	2010-03894	$183,803	Oklahoma State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Planning	2010-03354	$32,892	Utah State University
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Planning	2010-03355	$50,000	Shaw University
2010	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Planning	2010-03356	$50,000	University of Maine
2010	Renewable Energy, Natural Resources, and Environment	Water and Watersheds	2010-04084	$82,000	University of Delaware
2011	Renewable Energy, Natural Resources, and Environment	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2011-03684	$1,000,000	Purdue University
2011	Renewable Energy, Natural Resources, and Environment	Climate Change: Climate Change Mitigation and Adaptation in Agriculture	2011-03665	$1,000,000	University of California
2011	Renewable Energy, Natural Resources, and Environment	Sustainable Bioenergy: Development and Sustainable Production of Regionally Appropriate Biomass Feedstocks	2010-05069	$3,384,498	Louisiana State University Agricultural Center
2011	Renewable Energy, Natural Resources, and Environment	Renewable Energy, Natural Resources, and Environment	2011-03936	$ 499,000	Winrock International Institute for Agricultural Development
2011	Renewable Energy, Natural Resources, and Environment	Processes and Transformation in Soil	2011-03730	$310,000	University of Delaware
2011	Renewable Energy, Natural Resources, and Environment	Processes and Transformation in Soil	2011-03707	$480,000	University of Hawaii
2011	Renewable Energy, Natural Resources, and Environment	Plant Feedstock Genomics for Bioenergy	2011-03587	$800,000	Kansas State University

Approp FY	Categories	Program Name	Proposal Number	Amount	Recipient Institution
2011	Renewable Energy, Natural Resources, and Environment	Processes and Transformation in Soil	2011-03834	$485,000	University of North Carolina
2011	Renewable Energy, Natural Resources, and Environment	Processes and Transformation in Soil	2011-03748	$480,000	University of Nebraska
2011	Renewable Energy, Natural Resources, and Environment	Thresholds in Agroecosystems	2011-03976	$480,000	New Jersey Institute of Technology
2011	Renewable Energy, Natural Resources, and Environment	Processes and Transformation in Soil	2011-03817	$497,000	Oregon State University
2011	Renewable Energy, Natural Resources, and Environment	Management in Agroecosystems	2011-03859	$495,000	USDA Forest Service
2011	Renewable Energy, Natural Resources, and Environment	Processes and Transformation in Soil	2011-03746	$35,500	Allegheny College
2011	Renewable Energy, Natural Resources, and Environment	Management in Agroecosystems	2011-03860	$484,000	Pennsylvania State University
2011	Renewable Energy, Natural Resources, and Environment	Thresholds in Agroecosystems	2011-03955	$485,000	USDA
2011	Renewable Energy, Natural Resources, and Environment	Plant Feedstock Genomics for Bioenergy	2011-03502	$1,200,000	South Carolina Research Foundation
2011	Renewable Energy, Natural Resources, and Environment	Processes and Transformation in Soil	2011-03783	$480,000	Texas Tech University
2011	Renewable Energy, Natural Resources, and Environment	Processes and Transformation in Soil	2011-03815	$495,500	Virginia Polytechnic Institute and State University
	Renewable Energy, Natural Resources, and Environment Total			**$73,929,831**	
	Grand Total			$557,802,624	

New NIFA Projects

Mr. Kingston: What new projects or project areas will be the highest priority for fiscal year 2013?

Response: NIFA will continue to target high-priority areas including bioenergy, adaptation of agriculture to climate variability, global food security, nutrition and health, and food safety. AFRI funding will support high-risk but potentially high-reward research of individual investigators and research teams. Funding at the requested FY 2013 level will continue to foster interagency collaborations to leverage greater investment in agriculturally relevant areas of science, and attract new communities of scientists to agricultural issues.

AFRI Grants Awarded to ARS

Mr. Kingston: Please provide the list of AFRI grants awarded to ARS researchers for fiscal year 2011.

Response: Under the AFRI program in FY 2011, grant awards for which ARS is the lead research institution totaled $3,711,687. The proposals funded are provided for the record.

[The information follows:]

FY 2011 grant awards for which ARS is the lead research institution

Project Title	Award Amount
Mitigating insect herbivory of warm-season bioenergy grasses - getting ahead of the curve.	$798,193
Implementation of whole genome selection in the US dairy and beef cattle industries.	$625,000
Support for food safety and agricultural focus at the evergreen international phage meeting.	$10,000
Characterization of disease resistance and immune function in rainbow trout selectively bred for resistance to bacterial cold water disease.	$500,000
From gene to landscape: a hierarchical approach to understanding the evolution and spread of herbicide resistance in amaranthus tuberculatus.	$500,000
The orchestrated role of three multifunctional luteovirus proteins in virus movement within plant hosts and aphid vectors.	$499,990
The impacts of lignin modification on fungal pathogen and insect interactions in sorghum for cellulosic and thermal bioenergy.	$778,504
Total	**3,711,687**

Extension Activities

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing funding by category for NIFA's extension programs for fiscal years 2009 through 2012.

Response: The information is submitted for the record.

[The information follows:]

Extension Programs

	FY 2009	FY 2010	FY 2011	FY 2012
Formula Programs:				
Smith-Lever Formula 3(b)&c	$288,548,000	$297,500,000	$293,911,000	$294,000,000
1890 Institutions	40,150,000	42,677,000	42,591,646	42,592,000
Smith-Lever 3(d) Programs:				
Expanded Food and Nutrition Education Program	66,155,000	68,070,000	67,933,860	67,934,000
Pest Management	9,791,000	9,938,000	9,918,124	9,918,000
Farm Safety	4,863,000	4,863,000	4,853,274	0
Farm Safety and Youth Farm Safety Ed. & Cert.	0	0	0	4,610,000
New Technologies for Ag Extension	1,500,000	1,750,000	1,746,500	1,550,000
Children, Youth, and Families at Risk	8,182,000	8,412,000	8,395,176	7,600,000
Youth Farm Safety Education and Certification	479,000	486,000	485,028	0
Sustainable Agriculture	4,568,000	4,705,000	4,695,590	4,696,000
Federally-Recognized Tribes Extension	3,000,000	3,045,000	3,038,910	3,039,000
Extension Services at the 1994 Institutions	3,321,000	4,321,000	4,312,358	4,312,000
Renewable Resources Extension Act	4,008,000	4,068,000	4,059,864	3,700,000
Rural Health and Safety	1,738,000	1,738,000	1,734,524	1,500,000
1890 Facilities (Sec. 1447)	18,000,000	19,770,000	19,730,460	19,730,000
Grants for Youth Serving Institutions	1,767,000	1,784,000	1,780,432	750,000
Food Animal Residue Avoidance Database	806,000	1,000,000	998,000	1,000,000
Women & Minorities in STEM Fields	0	400,000	399,200	400,000
Federal Administration:				
Other	9,388,000	11,831,000	0	0
General Admin (Including Pay Cost)	7,433,000	8,012,000	7,995,976	7,300,000
Ag in the Classroom	553,000	553,000	551,894	552,000
Total, Extension Acitvities	$474,250,000	$494,923,000	$479,131,816	$475,183,000

Integrated Activities

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing funding by category, recipient(s) and location of recipient(s) for NIFA's integrated research program for fiscal years 2009 through 2012.

Response: This information is submitted for the record. Below is the award information for the record. Recipient data for 2009 and 2010 is provided for the record. 2011 data is not yet available.

[The information follows:]

Integrated Activities

Program Name	FY 2009	FY 2010	FY 2011	FY 2012
Rural Development Centers	$1,312,000	$1,312,000	$998,000	$998,000
Water Quality	12,649,000	12,649,000	8,982,000	4,500,000
Food Safety	14,596,000	14,596,000	10,978,000	-
Regional Pest Management Centers	4,096,000	4,096,000	2,994,000	4,000,000

Program Name	FY 2009	FY 2010	FY 2011	FY 2012
Crops at Risk from FQPA Implementation	1,365,000	1,365,000	-	-
FQPA Risk Mitigation Program for Major Food Crop Systems	4,388,000	4,388,000	-	-
Methyl Bromide Transition Program	3,054,000	3,054,000	1,996,000	1,996,000
Organic Transition Program	1,842,000	5,000,000	3,992,000	4,000,000
International Science and Education Grants	3,000,000	3,000,000	998,000	-
Critical Issues - Plant and Animal Diseases	732,000	732,000	-	-
Homeland Security	9,830,000	9,830,000	5,998,000	5,998,000
Subtotal (Discretionary Programs)	$56,864,000	$60,022,000	$39,926,000	$21,482,000
Organic Agricultural Research and Extension Initiative a/	18,000,000	20,000,000	20,000,000	20,000,000
Specialty Crops Research Initiative a/	50,000,000	50,000,000	50,000,000	50,000,000
Total	$124,864,000	$130,022,000	$106,926,000	$91,482,000

a/Mandatory Programs

Rural Development Centers (RDC)

Institution	FY 2009 Amount	FY 2010 Amount	Title
Utah State University	$312,256	$312,256	Western RDC
Pennsylvania State University	$312,256	$312,256	Northeast Regional RDC
Michigan State University	$312,256	$312,256	North Central Regional RDC
Mississippi State University	$312,256	$312,256	Southern RDC
Total	$1,249,024	$1,249,024	

Water Quality

FY 2009

Institution	Amount	Title
Colorado State U.	$67,000	Coordinated Regional Water Resources Programming for the Northern Plains and Mountains Region
Colorado State U.	600,000	Coordinated Regional Water Resources Programming for the Northern Plains and Mountains Region
Iowa State U.	575,000	Heartland Regional Water Coordination Initiative
U. of Maryland	600,000	Mid-Atlantic Water Program
Texas AgriLife Extension Service	1,270,000	Sothern Region Water Resource Project
U. of Wisconsin, Madison	610,000	Continuing Support for the Great Lakes Regional Water Program

Institution	Amount	Title
University of Idaho	595,000	Coordination, Development & Delivery of Water Resources Programs in the Pacific Northwest
U. of Rhode Island	1,090,000	Northeast States and Caribbean Islands
U. of Idaho	154,672	Synthesis and Analysis of 13 CSREES CEAP Projects
South Dakota State U.	645,788	Conservation Practices Assessment of the Lower Bad River Basin
Board of Regents of the U. of Wisconsin System UW-Extension	143,000	Mapping the Future: Youth-Water Programming for the 21st Century
Purdue U.	300,000	Impact of Biofeedstock Production on Hydrology/Water Quality in Midwest and Southeast USA
Arizona Board of Regents, U. of Arizona	550,000	Southwest States & Pacific Island
Board of Regents, U. of Nebraska, Lincoln	544,500	Improving and Conserving Water Resources through Stormwater Management Education for Community Decision Makers of Today and Tomorrow
Pennsylvania State U.	240,000	Innovation in Youth Water Education in Pennsylvania Priority Watersheds
Board of Trustees of the U. of Illinois	660,000	Reducing Nitrate Losses in Tile-Drained Agricultural Watersheds
North Carolina State U.	228,000	Robeson Creek Water Quality Outreach Initiative
Colorado State U.	615,000	Multi Criteria Decision Tool for the Assessment and Planning of Watershed Management Practices
U. of Connecticut	385,000	Support of NIWQP Research, Education & Extension Outreach through Geospatial Technology Training

Institution	Amount	Title
Board of Regents of the U. of Wisconsin System	629,000	Tools Integrating Landuser Management Decisions with Watershed Processes to Achieve Water Quality Goals
Washington State U.	566,610	Protecting Water Resources by Engaging Stakeholders in Targeted Implementation of Filter Strips
Kansas State U.	114,000	Environmental Leadership Interdisciplinary Curriculum to Address Water Resources
U. of Tennessee	652,000	Enhancing Water Quality in Oostanuala Watershed
Iowa State U.	165,459	Enhancing Farmland Water Quality & Availability through Soli-Building Crop Rotations & Organic Practices
Total	12,000,029	

FY 2010

Institution	Amount	Title
Colorado State U.	1,225,000	Northern Plains and Mountains Region
U. of Wisconsin, Madison	1,235,000	Continuing Support for the Great Lakes Regional Water Program
Arizona Board of Regents, U. of Arizona	1,145,000	Southwest States & Pacific Islands
U. of Maryland	1,200,000	Mid-Atlantic Water Program
U. of Rhode Island	2,226,848	Northeast States and Caribbean Islands
Iowa State U.	1,150,000	Heartland Regional Water Coordination Initiative
U. of Idaho	1,190,000	Continuing Support for the Great Lakes Regional Water Program

Institution	Amount	Title
Texas AgriLife Extension Service	2,670,000	The Southern Region Water Resource Project
Total	12,041,848	

Food Safety

FY 2009

Institution	Amount	Title
Rutgers, The State U. of New Jersey	600,000	Peer Networking & Social Norms Design
Cornell u.	591,732	Improving the Safety of Acidified & Acid Foods Produced by Small-scale Food Processors in the Northeast
Drexel U.	598,752	Identifying & Addressing Potential Poultry & Egg Mishandling Habits of Minority Ethnic & Racial Populations
Alabama State U.	599,999	Food Safety Education for Early Childhood Educations & Young Children
Ohio State U.	597,841	Enhancement of Educational & Extension Communications for the Prevention of Milkborne Diseases
Tennessee State U.	599,868	Innovation Approach for Integrating health Care Providers into Food Borne Illness Prevention for Older Adults
U. of California, Davis	595,589	Evaluation & Application of Practices for Controlling Salmonella in Nuts & Nut Products
U. of Illinois at Chicago	599,999	Menu for AIDS Patients to Eat Safely
Michigan State U.	599,939	Foodborne Norovirus in Elder Care Facilities

Institution	Amount	Title
U. of Tennessee	596,287	Investigating Food Safety Self-Efficacy in Adolescent Populations
U. of Minnesota	600,000	Development of an Integrated Multi-Level Food Safety Training Program for Spanish-Speaking Food Service Workers.
Iowa State U.	598,607	Customization of Food Safety Messaging for Retail foodservice Employees
U. of Georgia	598,541	Enhancing the Safety of Locally Grown Produce Through Research and Extension
U. of Florida	597,808	Integrated Needs Assessment & National Training Program to Enhance Seafood & Aquaculture Product Safety
Board of Regents, U. of Nebraska, Lincoln	599,992	Food Safety Assistance for Small Meat & Poultry Processor
California Polytechnic State U.	596,029	Predictive Growth Models for Escherichia coli 0157:H7 on Fresh-Cut Produce during Transport & Cold Chain Distribution
Colorado State U.	1,084,429	Quantifying Microbial Risks during Growth of Produce
Ohio State U.	999,989	Pathogen Inactivation in Fresh Produce
U. of Maryland	599,924	Online Integrated Food Safety Risk Analysis Resource to Facilitate National & International Information Exchange
Board of Regents of the U. of Wisconsin System	600,000	Modeling Persistence of Non-0157 Shiga Toxin-Producing Escherichia coli in Beef Slaughter & Validation of Interventions Used in Processing

Institution	Amount	Title
Oklahoma State U.	968,497	Filth Fly Transmission of Human Enteric Bacteria to Pre-harvest Fresh Product
	13,823,822	

FY 2010

Institution	Amount	Title
U. of California, Davis	50,000	Center for Produce Safety Research Symposium
U of Illinois at Chicago	600,000	Evidence-based Photonovella to Encourage Safe Meat Handling & Cooking Practices among Low Socio-economic Status African Americans
Rutgers, The State U. of New Jersey	600,000	Improving the Safety & Nutritional Adequacy of the Home Food Supply of Elderly Recipients of Home Delivered Meals
Purdue U.	600,000	Helping Childbearing-Aged Women Make Informed Decisions Regarding Seafood Consumption
Board of Regents, U of Nebraska, Lincoln	554,302	Food Safety for Diverse Families with Young Children
Sea Star International LLC	600,000	Minimizing the Risk of Lm Cross-Contamination of Deli Foods
Texas Woman's U.	600,000	Integrated Strategies to Reduce Foodborne Illness & Food Allergic Reactions Associated with Independently Operated Restaurants
Cornell U.	600,000	Assessing Risks & Implementing Food Safe Practices
U. of Florida	600,000	Assessing Safety of Enteric Pathogens on Fresh Produce Ingredients Destined for Uncooked Sauces/Salsa

Institution	Amount	Title
U. of Connecticut	600,000	Reducing Egg-borne Outbreaks of Salmonella Enteritidis
Colorado State U.	600,000	Foodborne Pathogen Persistence
Cornell U.	520,005	Enhancing the Safety of Non-thermally Processed Apple Juice
Virginia Polytechnic Institute & State U.	600,000	Enhancing Food Safety through an Integrated Education & Outreach Program using Principles of Risk Management
Texas A&M U.	1,000,000	Role of Surface-related Factors on Contamination & Survival of Pathogens in Fresh Produce Grown in Texas & Mexico
Washington State U.	2,000,000	Minimizing Antibiotic Resistance Transmission
Kansas State U.	600,000	Assessment & Reduction of Produce Food Safety Risks in the School Foodservice System
u. of Delaware	50,000	Framing the Message about Seafood for Consumers - A Consensus Building Workshop for Stakeholders
Ohio State U. Research Foundation	1,000,000	An Integrated Approach to Prevent & Minimize Foodborne Enteric Viruses in Vegetables & Fruits
Kansas State U.	2,000,000	Practical Interventions to Effectively Manage Antibiotic Resistance in Beef & Dairy Cattle Systems
Total	13,774,307	

Regional Pest Management Centers (PMC)

Institution	FY 2009 Amount	FY 2010 Amount	Title
U. of California	$974,598	$974,848	Western Integrated PMC

Institution	FY 2009 Amount	FY 2010 Amount	Title
Pennsylvania State U.	974,598	974,848	Northeastern Integrated PMC
Board of Trustees of the U. of Illinois	975,598	974,848	North Central Integrated PMC
North Carolina State U.	974,598	974,848	Southern Integrated PMC
Total	3,899,392	3,899,392	

Crops at Risk for FQPA Implementation

FY 2009

Institution	Amount	Title
Michigan State U.	$554,558	Integrating Applied Insect Ecology into Blueberry Pest Management
Virginia Polytechnic Institute & State U.	170,133	Integrated Management of Snap Bean Pythium Cottony Leak
Regents of the U. of California	299,259	To Repel or Kill: A Population Ecology Approach to Developing a New Model for Horn Fly Management in Beef & Dairy Cattle Systems
Regents of the U. of California	260,309	Management of Alfalfa Trap Crops to Prevent First Generation Lygus Bug Damage in California Strawberries
Total	1,284,259	

FY 2010

Institution	Amount	Title
Cornell U.	$230,000	A Novel Extension/Education Experience in IPM Systems for Undergraduate and Graduate Students in Plant Pathology
Cornell U.	330,995	Critical Research & Extension to Reduce Losses due to Strawberry Powdery Mildew
Montana State U.	218,419	DNC Barcoding to Unlock the Puzzle of Wireworm Pest Identities in Northern Great Plains Region
U. of Florida	512,379	Sustainable Approach for Integrated Management of Herbicide Resistant Hydrilla in the U.S.
Total	1,291,793	

FQPA Risk Mitigation Program for Major Food

FY 2009

Institution	Amount	Title
Regents of the U. of California	$627,600	Integrated Pest Management of the potato Psyllid & Candidatus Liberibacter Psyllaourous
U. of Wisconsin, Madison	811,565	Advancing Sustainable Disease Management on Field Corn
Montana State U.	668,820	Sheep Grazing as a Pest Management Tacti in a Minimum Till Rotational Cropping System
Washington State U.	2,048,490	Area-wide Management of Potato Pests in the Pacific Northwest
Total	4,156,475	

FY 2010

Institution	Amount	Title
Texas AgriLife Extension Service	$225,598	Internships to Develop IPM Professionals
Clemson U.	1,154,161	Innovative Nematode Management Strategies to Reduce Pesticide Usage While Enhancing Farm Profit & Environmental Quality
Washington State U.	828,811	New Way of Managing Soil Borne Diseases of Raspberry in Western States
Oklahoma State U.	1,929,861	Web-based IPM System for Winter Wheat
Total	4,138,431	

Methyl Bromide (MB)

FY 2009

Institution	Amount	Title
U. of Georgia	$448,910	Evaluation of Non-fumigant Pesticides as MB Alternatives
Pennsylvania State U.	688,187	Phytosanitary Treatment to MB Fumigation for Wood
North Carolina State U.	768,347	Integrated Management of Soilborne Pests in Strawberry and Vegetable Production Systems
Washington State U.	696,339	Control of Fusarium Root Rot in Douglas-fir Seedling Nurseries
U. of Arkansas	290,145	MB Alternatives for Yellow & Purple Nutsedge & Other Weeds in Tomato & Bell Pepper
Total	2,891,928	

FY 2010

Institution	Amount	Title
Regents of U. of California	$500,000	Energy Efficient Steam Soil Disinfestation Systems for Flower and Strawberry
U. of Florida	400,000	Large Scale Demonstration Trialing & Industry-wide Testing of MB Alternatives in Florida Strawberry
U. of Florida	565,000	Multi-State Evaluation of Carbonated Fumigants and Low Permeable Tarps to Reduce Application Rate
Kansas State U.	782,019	Evaluation, Integration, & Implementation of Non-Fumigation Based Pest Management Approaches
U. of Tennessee	643,177	Advances Development & Implementation of Anaerobic Soil Disinfestation Technology
Total	2,890,196	

Organic Transition Program

FY 2009

Institution	Amount	Title
North Carolina State U.	$658,769	Water Quality Evaluation of Long-Term Organic & Conventional Vegetable Production
Ohio State U. Research Foundation	659,527	Impacts of Organic Animal Production Systems on Water Quality & Quantity in Ohio
Iowa State U.	433,568	Enhancing Farmland Water Quality and Availability
Total	1,751,864	

FY 2010

Institution	Amount	Title
U. of Wisconsin	$436,894	Impact of Organic Management on Dairy Animal Health
U. of Wyoming	700,000	Solid Caron & Nitrogen Dynamics
U. of Illinois	649,883	Organic Systems & Climate Change
Iowa State U.	691,969	Effect of Cover Crops, Soil Amendments & Reduced Tillage on Carbon Sequestration
U. Of New Hampshire	700,000	Greenhouse Gas Emissions in the Transition from Traditional to Organic Dairy Farming
U. of Florida	624,148	Environmental & Economic Costs of Transitioning to Organic Production
Texas AgriLife Extension Service	697,012	Integrating Community College Students & Organic Farmers
North Carolina State U.	251,161	Evaluating the Potential of Winter Cover Crops for Carbon Sequestration in Degraded Soils
Total	4,751,067	

International Science and Education Grants

FY 2009

Institution	Amount	Title
Purdue U.	$149,746	Multicultural Perspectives on Sustainable Agriculture
Cornell U.	149,355	Enhancing Water Sustainability in a Water Scare Region in Africa
Pennsylvania State U.	149,993	Ag 2 Africa
U. of Gergia	87,095	Croatia Agriculture Research & Educational Exchange
U. of Rhode Island	149,723	Biodiversity Certification Models

Institution	Amount	Title
Alabama A&M U.	149,958	Strengthen Minority in Global Perspectives
North Carolina A&T State U.	149,261	Enhancing the International Agricultural Campus
Oregon State U.	149,999	Proposal to Create a Quarter Abroad Program at Universidad Austral de Chile
Rutgers, The State U. of New Jersey	149,955	Integrating Teaching, Research & Extension in the Supply Chain of the Lentil Industry
Texas Tech U/	149,572	Economic Research, Education & Outreach on the US & Brazilian Cotton Industries
Michigan State U.	143,849	Michigan-French Partnership to Strengthen Global Competence in Ag & Tourism
Texas A&M U.	149,999	Research, Education & Extension Program for Sustainable Manure Management Practices, Learning from the Belgian Model
West Texas A&M U.	106,400	West Texas International Program in Systems Agriculture & Environmental Science
West Virginia U.	125,187	Formalizing International Natural Resource Learning
u. of Minnesota	148,871	Food Safety & Food Defense in the Americas
U. of Missouri	139,905	Enhance International collaboration in Food Safety Education & Research to Combat Food Contamination through the Global Food Chain
Kansas State U.	140,370	Understanding International Consumer Needs & Testing Strategies for Food Product Development
Mississippi State U.	149,825	US-China Partnership

Institution	Amount	Title
Clemson U.	149,546	International Collaboration to Understand Molecular Mechanisms of Vegetative/Reproductive Transition in Gymnosperms
Tuskegee U.	145,119	Strengthening Global Competence of Veterinary & Graduate Students
Auburn U.	15,427	Sharpening US Global Agriculture Competitiveness via American-Spanish Research, Education & Extension
Total	2,849,155	

FY 2010

Institution	Amount	Title
Cornell U.	$149,764	The Global Agriculture Network
North Carolina A&T State U.	149,973	Enhancing US agribusiness Expansion to Emerging Markets
Southern U. & A&M College	150,000	Strengthening the Global Competence of Minority Students
Purdue U.	150,000	Sub-Saharan Context for Internationalizing Crop, Soil, & Environmental Science Curricula
U. of Wyoming	149,911	Opportunities for Education & Research Enhancements through Partnerships with New Zealand
U. of Florida	150,000	International Alliance for Functional Food Research, Education, & Extension
East Carolina U.	148,456	Strengthening the Global Competence of Faculty & Students through Partnership with China
U. of Arizona	149,258	Building Global Access to Sustainable Rangeland Management Resources for Research, Teaching, and Extension

Institution	Amount	Title
Auburn U.	134,560	Sharpening US Global Agriculture Competitiveness via American-Spanish Research, Education & Extension
U. of Nevada, Reno	149,997	Global Changes in Arid Ecosystems
Michigan State U.	149,975	Globalization of Food Systems Training Programs for Veterinary Students
Colorado State U.	149,899	International Research & Education Collaboration with India and China in Agriculture & Precision Agriculture
Clemson U.	148,058	Enhancing the Sustainability of Livestock Production Systems on the Southeastern US
U. of California	147,454	Water Sustainability in Desert Agriculture
U. Kentucky	150,000	Globalizing Agricultural Education
U. of Georgia	150,000	TransAltantic Precision Agriculture Consortium
Iowa State U.	149,879	Preparing Current & Future Food and Ag Professionals for the US and China-Led Global Economy
U. of Wisconsin	149,940	Understanding & Mitigating Potential Food Safety Risks on Dairy Farms in Kosovo and the US
U. of Delaware	150,000	Agriculture's Global Challenges
U. of Missouri	12,539	Internationalization of Forestry, Education, Research & Extension: US - Costa Rica Cooperation
	2,839,663	

Critical Issues-Plant and Animal Diseases

FY 2009

Institution	Amount	Title
Colorado State U.	$15,300	Monitoring for Thousand Cankers Disease of Juglans in Western US
Oregon State U.	7,132	Rapid On-site Detection Method for Vibrio tubiashii in Shellfish Hatcheries
U. of Florida	90,000	Improving Ambrosia Beetle Management by Understanding & Exploiting Beetle-host Interactions
Rutgers, The State U. of New Jersey	90,000	Biology, Distribution & Pest Status of the Brown Marmorated Stink Bug in Agronomic, Fruit & Vegetable Crops, & Urban Areas
Ohio State U.	90,000	Determining the Distribution & Pest Status of the Trochanter Mealybug on Soybean
U. of Florida	89,958	Management Strategies for the Red Bay Ambrosia Beetle on Avocado
Colorado State	172,307	Management of Agricultural Animals in a Radiological or Nuclear Incident
Texas A&M U.	127,620	Effective Contamination Detection for Livestock following a Radiological Event
Total	682,317	

FY 2010

Institution	Amount	Title
Virginia Polytechnic Institute & State U.	$200,000	Development of DNA-based Nanoscale Optical Fiber Biosensor Assay to Detect Brucella Infections in Elk other Wildlife
U. of Florida	131,122	Determining Host & Geographic Ranges of Groundnut Ringspot Virus in US Tomatoes
U. of Hawaii	109,955	Post-harvest Management of Slugs & Snails Potentially Carrying Rate Lungworm in Hawaii
U. of California	124,296	Host Susceptibility, Geographic Distribution, & Management of the Invasive Bagrada Bud in the US
Oklahoma State U.	113,649	Time-critical Assessment of Potential Distribution of the Bagrada Bug
Total	679,022	

Homeland Security

Recipient	Fiscal Year 2009	Fiscal Year 2010	Title
Cornell University	984,410	830,000	Northeast Plant Diagnostic Network
Michigan State University	830,350	942,780	North Central Plant Diagnostic Network,
Purdue University	248,250	250,000	National Database/National Network Diagnostic Center
University of California	830,350	830,000	Western Regional Center in the National Diagnostic Network
Murray State University	50,000	50,000	National Animal Health Laboratory Network
University of Georgia	298,000	298,000	Georgia National Animal Health Laboratory Network Program
Wyoming State Veterinary Laboratory	50,000	50,000	National Animal Health Laboratory Network
Utah State University	50,000	50,000	National Animal Health Laboratory Network
University of Florida	830,350	830,000	The Southern Plant Diagnostic Network
Kansas State University	830,350	830,000	Great Plains Diagnostic Network
AZ Board of Regents, Univ., of Arizona	298,000	298,000	National Animal Health Laboratory Network
State of Tennessee, Dept. of Agriculture	50,000	50,000	National Animal Health Laboratory Network
University of Nebraska	50,000	50,000	Further Integration of the Nebraska Vet., Diagnostic Ctr., into the Nat'l Animal Health Laboratory Network,
University of California	308,000	298,000	National Animal Health Laboratory Network
Washington State University	308,000	308,000	Washington Animal Health Disease Diagnostic Laboratory
Cornell University	298,000	298,000	National Animal Health Laboratory Network
University of Minnesota	50,000	50,000	National Animal Health Laboratory Network
University of Wisconsin-Madison	298,000	298,000	National Animal Health Laboratory Network
Iowa State University of Science/Tech.	298,000	298,000	National Animal Health Laboratory Network
Colorado State University	298,000	298,000	National Animal Health Laboratory Network
Purdue University	50,000	50,000	National Animal Health Laboratory Network
Purdue University	485,000	499,000	EDEN Homeland Security Initiative
Oregon State University	50,000	50,000	National Animal Health Laboratory Network
Mississippi State University	50,000	50,000	National Animal Health Laboratory Network
Ohio Department of Agriculture	50,000	50,000	ODA NAHLN Supplemental Agreement for IT and Equipment Support
Louisiana State University	298,000	298,000	
Kansas State University	50,000	50,000	National Animal Health Laboratory Network
South Dakota State University	50,000	50,000	National Animal Health Laboratory Network
Florida Dept. of Agr.,/Consumer Service	298,000	298,000	Homeland Security-Agricultural
NC Department of Agr.,/Consumer Services	298,000	298,000	National Animal Health Laboratory Network
New Jersey Department of Agriculture	50,000	50,000	National Animal Health Laboratory Network
Texas Veterinary Medical Diagnostic Lab.	298,000	298,000	National Animal Health Laboratory Network
New Mexico Department of Agriculture	50,000	50,000	New Mexico ALIRT Program
Michigan State University	50,000	50,000	National Animal Health Laboratory Network
Pennsylvania Department of Agriculture	50,000	50,000	National Animal Health Laboratory Network
Total	9,435,060	9,397,780	

Organic Research and Extension Initiative

FY 2009

Institution	Amount	Title
Cornell U.	$894,069	Summer Cover Crops for Weed Suppression and Soil Quality in Organic Vegetable Production in the Great Lakes Region
Iowa State U. of Science and Technology	1,047,024	Sustainable Systems for Cucurbit Crops on Organic Farms
The U. of Vermont and State Agricultural College	946,675	Using New Alternatives to Enhance Adoption of Organic Apple Production through Integrated Research and Extension
Washington State U.	46,794	No-till organic vegetable production in western Washington: A Planning Proposal
Regents of the University of Minnesota	38,466	Integrated Organic Dairy Research and Extension planning
Michigan State U.	1,049,674	Practical Perennials: Partnering with farmers to develop a new type of wheat crop
North Carolina State U.	1,174,942	Farmer Driven Breeding: Addressing the Needs of Southeastern Organic Field Crop Producers
Utah State U.	637,519	Organic Stone-Fruit Production: Optimizing Water Use, Fertility, Pest Management, Fruit Quality and Economics
Cornell U.	1,431,591	Building on success: a research and extension initiative to increase the prosperity of organic grain and vegetable farms
Organic Seed Alliance	46,281	The Seed We Need Working Group, Symposium, and Action Plan for the Advancement of Organic Seed Systems
U. of Guam	41,616	Training Conference to Develop Certification Inspectors to Enable organic Agriculture on Guam and the American Affiliated Pacific

Institution	Amount	Title
Sustainable Agricultural Systems Lab	759,480	On-Farm Research and Extension to support Sustainable Nutrient Management of Organic Grain Cropping Systems in the Mid-Atlantic Region
U. of Maine System acting through the U. of Maine	1,320,378	Enhancing farmers capacity to produce high quality organic bread wheat
Oregon State U.	522,108	Northern Organic Vegetable Improvement Cooperative
U. of Nebraska, Lincoln	1,419,710	Improving Organic Farming Systems and Assessing their Environmental Impacts across Agroecoregions
Pennsylvania State U.	538,415	Improving Weed and Insect Management in Organic Reduced - Tillage Cropping Systems
Washington State U.	410,077	Plant breeding and agronomic research for organic hop production systems
U. of Hawaii	47,500	Hua Ka Hua - Restore Our Seed: A symposium to develop a Hawaii Public Seed Initiative
The Ohio State U. Research Foundation	1,089,190	Enhancing Productivity and Soilborne Disease Control in Intensive Organic Vegetable Production with Mixed - Species Green Manures
U. of Hawaii	351,028	Vermicompost - based media to enhance organic vegetable seedling vigor, yield, crop quality and grower profitability
Regents of the U. of California	372,135	Researcher and Farmer Innovation to Increase Nutrient Cycling on Organic Farms
Washington State U.	1,040,210	Sustainable Dryland Organic Farming Systems in the pacific Northwest
The Ohio State U.	470,696	Mental models and participatory research to redesign extension programming for organic weed management
Board of Regents, U. of Nebraska, U. of NE - Lincoln	69,806	High Pressure Processing of natural, Organic, and Minimally-Processed Peanut Butter

Institution	Amount	Title
The Board of Regents of the UW System	541,172	Organic Certified Seed Potato Production in the Midwest
Oregon State University	317,182	eOrganic: the National Online Information, Training, and Networking System for Organic Agriculture
U. of Wyoming	574,621	Marketing opportunities and constraints confronting organic farming operations in the high plains
Total	$17,198,359	

FY 2010

Institution	Amount	Title
U. of Wisconsin, Madison	$574,621	Strategies of Pasture Supplementation on Organic and Conventional Grazing Dairies: Assessment of Economic, Production and Environment Outcomes
Utah State U.	1,019,411	Improved Organic Milk Production through the Use of the Condensed Tannin-Containing Forage Legume Birdsfoot Trefoil
Texas A&M U.	661,437	Development of Cultivars and IPM Strategies for Organic Cotton Production
USDA, Agricultural Research Service, Southern Plains Area	967,916	A systems Approach to Control Gastrointestinal Nematodes in Organic Small Ruminant Production
Farmers Legal Action Group, Inc.	109,200	Farmers Legal Action Group Production of an Organic Farmers Guide to Contracts
Michigan State U.	963,762	Organic Dry Bean Production Systems
Michigan State U.	188,531	Holistic Integration of Organic Strategies and High Tunnels for Midwest/Great Lakes Fruit Production
Purdue U.	1,288,010	Economics, Ecology, Education: An Integrated Approach to Ensure the Success of Organic Vegetable Growers

Institution	Amount	Title
South Dakota State U.	43,809	Sustainable Organic Tribal Bison Production Using an Intra-Tribal Supply Chain Management System: A planning Grant Proposal
The University of Georgia Research Foundation, Inc.	45,713	Low Energy Agro-Ecological Farming (LEAF)
USDA, Agricultural Research Service, Midwest Area	49,666	Environmental sustainability of Organic Farming Systems: On-Farm, Experimental, and Watershed Assessments
University of New Hampshire	31,372	Research and Extension Needs Assessment of the Organic Dairy Industry in the Northeast
Oregon State U.	2,428,677	Organic Blackberry Production Systems for Improved Yield, Fruit Quality, and Food Safety in Fresh and Processed Markets
Regents of the U. of Idaho	108,815	Host plant choice of Colorado potato beetle and variation in defoliation and yield losses among organically grown commercial potato varieties
The U. of Vermont and State Agricultural College	759,516	Development of Tech. Training and Support for Ag. Service Providers & Farmers in Certified Organic Dairy Production Systems through eOrganic
The U. of Arizona	950,514	Improving the Safety and Quality of Organic Leafy Greens: Assessment of Good production Practices Along the Farm to Fork Continuum
U. of Maryland	526,781	Using winter cover crops to enhance the organic vegetable industry in the mid-Atlantic region
Washington State U.	1,538,115	Carbon Sequestration, Nutrient Bioavailability, and Environmental Services from Organic Agriculture
West Virginia U.	31,344	Organic Sheep and Goats: Herd Health and Nutrition Planning Proposal for the Northeast US 2010
U. of Minnesota	1,273,250	Tools for Organic Transition: Financial Data and Educational Resources for Farmers and Agricultural Professionals

Institution	Amount	Title
The U. of Tennessee	50,000	Pasteurization of High Quality Organic Fruit and Vegetable Juices using Nonthermal LTechnologies
The Board of Regents of the UW System	658,735	Crop Plant Nutrition and Insect Response in Organic Field Crop Production: Linking Farmer Observation to University Research and Extension
Iowa State U.	2,864,478	Strengthening public corn breeding to ensure that organic farmers have access to elite cultivars
Pennsylvania State U.	678,797	Improving Weed and Insect Management in Organic Reduced-Tillage Cropping Systems
Oregon State U.	620,066	Northern Organic Vegetable Improvement Collaborative (NOVIC)
The Ohio State U.	684,496	Mental Models and Participatory Research to Redesign Extension Programming for Organic Weed Management
Total	$19,117,032	

Specialty Crop Research Initiative

FY 2009

Institution	Amount	Title
Washington State U. Agricultural Research Center	$1,999,002	Biodegradable Mulches for Specialty Crops Produced Under Protective Covers
Washington State U.	1,821,721	Agronomic and Biochemical Impacts of Biotic and Abiotic Stress on Pacific Northwest Flavor Crops
Washington State U.	46,146	Development of a Smart Targeted Spray Application Technology Roadmap for Specialty Crops
Washington State U.	474,115	Tree Fruit GDR: Translating Genomics into Advances in Horticulture

Institution	Amount	Title
The Board of Trustees of the U. of Illinois	1,951,981	Integrated Genomics and Management Systems for Control of Fire Blight
Cornell U.	50,000	Establishing a Broccoli Industry in the Eastern United States
Cornell U.	50,000	Planning to Expand the New Knowledge Fusion Model: Spurring Innovations for Specialty Crops
Cornell U.	49,979	Addressing Research and Extension Needs of the Emerging Cold-Climate Wine Industry in the Northeast and Upper Midwest
Cornell U.	47,297	Developing a Team to Address Major Viticultural, Enological & Market Driven Challenges to a Strong & Sustainable Eastern Wine Industry
U. of Georgia	774,581	Advancing Onion Postharvest Handling Efficiency & Sustainability by Multimodal Quality Sensing, Disease Control, and Waste Stream Management
Michigan State U.	1,831,469	RosBREED-Enabling marker-assisted breeding in Rosaceae
U. of Florida	1,894,904	A multi-disciplinary approach to sustainability and profitability of US blueberry production using the tree-like species Vaccinium arboreum
U. of Florida	23,126	Improving the profitability of blueberry production with a comprehensive precision agriculture program
U. of Arkansas, Fayetteville	1,463,234	Management of Virus Complexes in Rubus
U. of Maine System Acting Through U. of Maine	1,023,805	Systems Approach to Improving the Sustainability of Wild Blueberry Production
Washington State U.	3,891,952	A Total Systems Approach to Developing a Sustainable Stem-Free Sweet Cherry Production, Processing, and Marketing System

Institution	Amount	Title
Washington State U.	49,479	Placing Fruit Canopy Management Automation Technology in the Field
U. of Maryland, College Park	5,161,495	Precision Irrigation & Nutrient Mgmt. for Nursery, Greenhouse & Green Roof Systems: Wireless Sensor Networks for Feedback & Feedforward Cont
Clemson U.	48,947	Bridging Specialty Crop Producers & Institutional Food Purchasers: Distilling a Research & Extension Agenda in Support of Local Food Systems
Colorado State U.	49,949	Planning Grant to Document the Health-Promoting Properties of Dry Beans and to Increase Consumption in the US
Michigan State U.	22,903	Limiting bird damage to fruit crops: A planning program to identify research directions for the future
U. of Florida	1,967,863	Laurel Wilt of Avocado: Mitigation and Management of an Exotic, Insect-Vectored Disease
USDA, ARS	559,531	Manipulating Host - and Mate-Finding Behavior of Plum Curculio: Development of a Multi-Life Stage Management Strategy for a Key Fruit Pest
USDA Agricultural Research Service	637,330	"FasTrack" a revolutionary approach to long generation cycle specialty crop breeding
USDA, Agricultural Research Service	1,826,298	Intelligent Spray Systems for Floral and Ornamental Nursery Crops
Rutgers, The State U. of New Jersey	1,503,166	Locally Grown Ethnic Greens & Herbs: Demand Assessment and Production Opportunities
The Regents of the U. of California	3,965,999	Increasing Consumption of Specialty Crops by Enhancing their Quality and Safety
Texas AgriLife Research-Amarillo	3,900,889	Management of Zebra Chip to Enhance Profitability and Sustainability of US Potato Production

Institution	Amount	Title
The Regents of the U. of California	1,957,835	An invasive mealybug pest and an emerging viral disease: a dangerous mix for West coast vineyards
Biological and Integrated Pest Management Research Unit	2,381,759	Development of comprehensive strategies to manage Potato Virus Y in potato and eradicate the tuber necrotic variants
Mississippi State U.	422,964	Development of a Grape Community of Practice for the eXtension System
Oregon State U.	1,392,933	Expansion of hazelnut production, feedstock, and biofuel potential through breeding for disease resistance and climatic adaptation
The Ohio State U.	49,966	Identifying stakeholder needs for establishing urban specialty crops enterprise
Louisiana State University Agricultural Center	518,749	Development of an eXtension Community of Practice (CoP) - All about Blueberries
Louisiana State University Agricultural Center	2,841,987	Participatory Modeling and Decision Support for Improving Sweetpotato Production Efficiency, Quality and Food Safety
Total	$46,653,354	

FY 2010

Institution	Amount	Title
Cornell U.	$50,000	Development & Implementation of a National Web-Based Decision Support System for Apple IPM
Virginia Polytechnic Institute and State U.	2,729,649	Integrated management of zoosporic pathogens and irrigation water quality for a sustainable green industry
USDA-ARS	1,483,438	A diagnostic toolbox for integrated management of apple postharvest necrotic disorders
Cornell U.	3,172,100	Developing an Eastern Broccoli Industry
Oklahoma State U.	30,000	Defining Research and Extension Priorities for Pecan Production, Processing, Marketing and Consumer Utilization
Regents of the U. of California	1,549,473	Recurrent Migrations of Verticillium dahlia: A Stealthy and Pervasive threat to California and US Specialty Crops
USDA-ARS Geneva	49,316	Enhancing the Potential of Innovative Rootstock Technologies to Increase Profitability and Sustainability in U.S. Tree Fruit Production
U.S. Department of Agriculture	562,035	Developing sustainable vineyard water management strategies for limited and impaired water supplies
The Pennsylvania State U.	1,338,438	Determining the Roles and Limiting Factors Facing Native Pollinators in Assuring Quality Apple Production in Pennsylvania
U. of Florida	2,939,056	Precision disease Management for sustainable strawberry production in the eastern U.S.
The Pennsylvania State U.	50,000	Protective Structures for Berry Crop Production: Assessing Grower Needs and Market Potential
Michigan State U.	46,050	Conserving Native Bees and Valuing their Services for Sustainable Specialty Crop Pollination

Institution	Amount	Title
Purdue U.	2,441,298	Developing LED Lighting Technology and Practices for Sustainable Specialty-Crop production
Texas AgriLife Research	3,802,678	Plant Genetics and Genomics to Improve Drought and Salinity Tolerance for Sustainable Turfgrass Production in the Southern United States
Agricultural Research Service - USDA	1,697,509	Innovative Technologies and Process Optimization for Food Safety Risk Reduction Associated with Fresh and Fresh-cut Leafy Green Vegetables
U. of Minnesota	496,663	Development of an eXtension Community of Practice (CoP) - Rootstocks and Apple Varieties for the Eastern States (RAVES)
AZ Board of Regents on behalf of Arizona State U.	312,471	Asian Citrus Psyllid in California: an Economic Analysis of Efficient Management and Control Strategies
Virginia Polytechnic Institute and State U.	3,796,693	Improved grape and wine quality in a challenging environment: An eastern US model for sustainability and economic vitality
U. of Illinois	1,548,793	Impact and social acceptance of selected sustainable practices in ornamental crop production systems
Colorado State U.	2,467,589	ipmPIPE and Innovative Disease Diagnostic tools for Onion Growers
The U. of Tennessee	50,000	Developing a Commercial Edamame Industry in the Eastern US
Oregon State U.	5,758,980	Biology and Management of Spotted Wing Drosophila on Small and Stone Fruits
Auburn U.	604,771	A SMART Trap System for the Invasive Ambrosia Beetles in Production Nurseries
U. of California, Davis	2,590,885	Precision Canopy and Water Management of Specialty Crops through Sensor-Based Decision Making

Institution	Amount	Title
Regents of the U. of California	2,518,477	Next-Generation Lettuce Breeding: Genes to Growers
Oregon State U.	50,000	Feasibility study of automated full-chain traceability systems to improve food safety, quality and productivity of specialty crops
The Ohio State U.	2,037,717	A Systems Approach to Managing Microbial Threats to Greenhouse Tomatoes
Northern Marianas College	28,629	Artificial food storage cavern for improving the storability of taro and sweet potato produced in the Northern Mariana Islands
Michigan State U.	1,945,978	RosBREED-Enabling marker-assisted breeding in Rosaceae
Washington State U.	519,741	Tree Fruit GDR: Translating Genomics into Advances in Horticulture
Total	$46,668,427	

Specialty Crop Initiative

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record of the Specialty Crop Research Initiative, including the amount, recipient(s) and location of recipient(s), for fiscal years 2009 through 2012.

Response: This is a competitive program. Awards have not been determined for FY 2012. The information is submitted for the record.

[The information follows:]

Specialty Crop Research Initiative
FY 2009

Location of Recipient(s)	Recipients	Amount
AR	University of Arkansas, Fayetteville	$1,463,234
CA	University of California	5,923,834
CO	Colorado State University	49,949
FL	University of Florida	3,885,893
GA	University of Georgia	774,581
IL	University of Illionis	1,951,981
LA	Louisiana State University	3,360,736
MD	University of Maryland, College Park	5,161,495
ME	University of Maine	1,023,805
MI	Michigan State University	1,854,372
NJ	Rutgers, The State University of New Jersey	1,503,166
NY	Cornell University	197,276
NY	Agricultural Research Service, USDA	2,381,759
OH	Agricultural Research Service, USDA	1,826,298
OH	Ohio State University	49,966
OK	Oklahoma State University	422,964
OR	Oregon State University	1,392,933
SC	Clemson University	48,947
TX	Texas A&M University	3,900,889
WA	Washington State University	8,282,415
WV	Agriculture Research Service, USDA	1,196,861
	Federal Administration	2,000,000
	Small Business Innovation Research	1,200,000
	Peer Panel	146,646
Total		$50,000,000

Specialty Crop Research Initiative
FY 2010

Location of Recipient(s)	Recipients	Amount
AL	Auburn University	$604,771
AZ	Arizona State University	312,471
CA	University of California	6,658,835
CA	Agricultural Research Service, USDA-	562,035
CO	Colorado State University	2,467,589
FL	University of Florida	2,939,056
IL	University of Illinois	1,548,793
IN	Purdue University	2,441,298
MD	Agricultural Research Service, USDA	1,697,509
MI	Michigan State University	1,992,028
MN	University of Minnesota	496,663
N. Marianas	Northern Marianas College	28,629
NY	Cornell University	3,222,100
NY	Agricultural Research Service, USDA	49,316
OH	Ohio State University	2,037,717
OK	Oklahoma State University	30,000
OR	Oregon State University	5,808,980
PA	Pennsylvania State University	1,388,438
TN	University of Tennessee	50,000
TX	Texas A&M University	3,802,678
VA	Virginia Polytechnic Institue & State University	6,526,342
WA	Agriculture Research Service, USDA	1,483,438
WA	Washington State University	519,741
	Federal Administration	2,000,000
	Small Business Innovation Research	1,200,000
	Peer Panel	131,573
Total		$50,000,000

Specialty Crop Research Initiative
FY 2011

Location of Recipient(s)	Recipients	Amount
AL	Auburn University	$1,542,160
CA	The Regents of the University of California	1,903,727
FL	North South Institute, Inc.	284,106
FL	University of Florida	2,202,711
GA	The University of Georgia Research Foundation, Inc.	1,219,636
IA	Iowa State University of Science and Technology	1,949,642
IL	Agricultural Research Service, Midwest Area	1,332,040
MA	University of Massachusetts Amherst	3,318,651
MI	Michigan State University	7,682,250
MN	Regents of the University of Minnesota	903,909
MD	Agricultural Research Service, USDA	8,005,185
MD	University of Maryland	1,861,387
NC	North Carolina State University	2,490,839
NJ	Rutgers; The Sstate University of New Jersey	1,866,558
NY	Cornell University	4,602,690
OH	The Ohio State University	50,000
PA	Saint Joseph's University	322,202
SC	Clemson University	50,000
VA	Virginia State University	49,280
WA	Washington State University	1,054,798
WI	The Board of Regents of the University of Wisconsin System	3,773,367
	Federal Administration	2,000,000
	Small Business Innovation Research	1,200,000
	Biotech Risk Assesment	203,440
	Peer Panel	131,422
Total		$50,000,000

Special Research Grants

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record of all special research grants, including the amount, recipient(s) and location of recipient(s), for fiscal years 2010 through 2012.

Response: Most of the special research grants are earmarks that were not funded in 2011 and 2012. The information is submitted for the record.

[The information follows:]

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Advanced Genetic Technologies, KY	650,000	0	0	University of Kentucky	Lexington, KY
Advancing Biofuel Production, TX	300,000	0	0	Texas A&M University	College Station, TX
				Baylor University	Waco, TX
Aegilops Cylindrica (Jointed Goatgrass), WA	245,000	0	0	Washington State University	Pullman, WA
Agricultural Diversification, HI	153,000	0		University of Hawaii	Oahu, HI
Agricultural Entrepreneurial Alternatives, PA	248,000	0	0	The Pennsylvania State University	University Park, PA
Agricultural Marketing, IL	176,000	0	0	University of Illinois	Urbana-Champaign, IL
Agriculture Energy Innovation Center, GA	1,000,000	0	0	University of Georgia	Athens, GA
Agriculture Science, OH	450,000	0	0	The Ohio State University	Columbus, OH
Agroecology/Chesapeake Bay Agroecology, MD	439,000	0	0	University of Maryland-Wye Research & Education Center	Queenstown, MD
Air Quality, TX and KS	1,090,000	0	0	Texas A&M University	College Station, TX

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Animal Science Food Safety Consortium, AR, IA, and KS	1,000,000	0	0	University of Arkansas	Fayetteville, AR
				Iowa State University	Ames, IA
				Kansas State University	Manhattan, KS
Apple Fire Blight, MI and NY	346,000	0	0	Michigan State University	East Lansing, MI
				Cornell University	Ithaca, NY
Aquaculture, FL, CA, and TX	416,000	0	0	University of Florida	Gainesville, FL
Aquaculture, ID and WA	529,000	0	0	Washington State University	Pullman, WA
				University of Idaho	Moscow, ID
Aquaculture, LA	150,000	0	0	Louisiana State University	Baton Rouge, LA
Aquaculture, MS	361,000	0	0	Mississippi State University	Starkville, MS
Aquaculture, NC	227,000	0	0	North Carolina State University	Raleigh, NC
Aquaculture Product and Marketing Development, WV	550,000	0	0	University of West Virginia	Morgantown, WV
Armillaria Root Rot, MI	104,000	0	0	Michigan State University	East Lansing, MI
Asparagus Production Technologies, WA	173,000	0	0	Washington State University	Pullman, WA
				Michigan State University	East Lansing, MI
Avian Bioscience, DE	150,000	0	0	University of Delaware	Newark, DE
Babcock Institute, WI	416,000	0	0	University of Wisconsin	Madison, WI
Barley for Rural	547,000	0	0	Montana State	Bozeman, MT

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Development, MT and ID				University	
				University of Idaho	Moscow, ID
Beef Improvement Research, TX and MO	693,000	0	0	Texas A&M University	College Station, TX
				University of Missouri	Columbia, MO
Bioactive Foods Research for Health and Food Safety, MA	525,000	0	0	University of Massachusetts	Amherst, MA
Biodesign and Processing Research Center, VA	868,000	0	0	Virginia Polytechnic Institute and State University	Blacksburg, VA
Bioenergy Production and Carbon Sequestration, TN	1,000,000	0	0	University of Tennessee	Knoxville, TN
Biomass-based Energy Research, OK and MS	839,000	0	0	Oklahoma State University	Stillwater, OK
				University of Oklahoma	Norman, OK
				Mississippi State University	Starkville, MS
Biotechnology, NC	199,000	0	0	North Carolina State University	Raleigh, NC
Bovine Tuberculosis, MI and MN	346,000	0	0	Michigan State University	East Lansing, MI
Brucellosis Vaccine, MT	305,000	0	0	Montana State University	Bozeman, MT
Cataloging Genes Associated with Drought and Disease Resistance, NM	176,000	0	0	New Mexico State University	Las Cruces, NM
Center for One Medicine, IL	500,000	0	0	University of Illinois	Urbana-Champaign, IL
Center for Rural Studies, VT	350,000	0	0	University of Vermont	Burlington, VT

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Childhood Obesity and Nutrition, VT	250,000	0	0	University of Vermont	Burlington, VT
Citrus Canker/Greening, FL	1,217,000	0	0	University of Florida	Gainesville, FL
Competitiveness of Agricultural Products, WA	469,000	0	0	Washington State University	Pullman, WA
				University of Washington	Seattle, WA
Computational Agriculture, NY	131,000	0	0	Cornell, University	Ithaca, NY
Cool Season Legume Research, ID, ND, and WA	350,000	0	0	University of Idaho	Moscow, ID
				North Dakota State University	Fargo, ND
				Washington State University	Pullman, WA
Cotton Insect Management and Fiber Quality, GA	346,000	0	0	University of Georgia	Athens, GA
Cranberry/Blueberry Disease and Breeding, NJ	550,000	0	0	Rutgers University	New Brunswick, NJ
Cranberry/Blueberry, MA	160,000	0	0	University of Massachusetts	Amherst, MA
Crop Integration and Production, SD	400,000	0	0	South Dakota State University	Brookings, MT
Crop Pathogens, NC	225,000	0	0	North Carolina State Univesity	Raleigh, NC
Dairy and Meat Goat Research, TX	200,000	0	0	Prairie View A&M University	Prairie View, TX
Dairy Farm	372,000	0	0	The Pennsylvania	University Park,

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Profitability, PA				State University	PA
Delta Revitalization Project, MS	176,000	0	0	Mississippi State University	Starkville, MS
Designing Foods for Health, TX	1,385,000	0	0	Texas A&M University	College Station, TX
Detection and Food Safety, AL	1,748,000	0	0	Auburn University	Auburn, AL
Drought Mitigation, NE	600,000	0	0	University of Nebraska	Lincoln, NE
Efficient Irrigation, NM and TX	1,160,000	0	0	Texas A&M University	College Station, TX
				New Mexico State University	Las Cruces, NM
Emerald Ash Borer, OH	550,000	0	0	The Ohio State University	Columbus, OH
Environmental Research, NY	258,000	0	0	Cornell, University	Ithaca, NY
Environmental Risk Factors/Cancer, NY	150,000	0	0	Cornell, University	Ithaca, NY
Environmentally Safe Products, VT	250,000	0	0	University of Vermont	Burlington, VT
Expanded Wheat Pasture, OK	223,000	0	0	Oklahoma State University	Stillwater, OK
Expert IPM Decision Support System	156,000	155,688	153,000	North Carolina State University	Raleigh, NC
Floriculture, HI	300,000	0	0	University of Hawaii	Manoa, HI
Food and Agriculture Policy Research Institute IA, MO, NV, and WI	1,339,000	0	0	Iowa State University	Ames, IA
				University of Missouri	Columbia, MO
Food and Fuel Initiative, IA	298,000	0	0	Iowa State University	Ames, IA

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Food Marketing Policy Center, CT	401,000	0	0	University of Connecticut	Storrs, CT
				University of Massachusetts	Amherst, MA
Food Safety, OK and ME	382,000	0	0	Oklahoma State University	Stillwater, OK
Food Safety, TX	69,000	0	0	Texas A&M University	College Station, TX
Food Safety Research Consortium, NY	693,000	0	0	Cornell, University	Ithaca, NY
Food Security, WA	276,000	0	0	Washington State University	Pullman, WA
Forages for Advancing Livestock Production, KY	473,000	0	0	University of Kentucky	Lexington, KY
Forest Products Research	0	0	1,350,000	To be awarded competitively	Not yet determined
Forestry Research, AR	319,000	0	0	University of Arkansas	Monticello, AR
Fresh Produce Food Safety, CA	750,000	0	0	University of California	Davis, CA
Genomics for Southern Crop Stress and Disease, MS	797,000	0	0	Mississippi State University	Starkville, MS
Geographic Information System	1,248,000	0	0	The Pennsylvania State University	University Park, PA
Global Change and UV Monitoring, CO	1,408,000	1,405,184	1,300,000	Colorado State University	Fort Collins, CO
Grain Sorghum, KS and TX	1,000,000	0	0	Kansas State University	Manhattan, KS
				Texas A&M University	College Station, TX
				Texas Tech University	Lubbock, TX

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Grass Seed Cropping for Sustainable Agriculture, ID, OR, and WA	313,000	0	0	University of Idaho	Moscow, ID
				Oregon State University	Corvallis, OR
				Washington State University	Pullman, WA
High Performance Computing, UT	263,000	0	0	Utah State University	Logan, UT
Human Nutrition, LA	526,000	0	0	Louisiana State University	Baton Route, LA
Human Nutrition, NY	377,000	0	0	Cornell University	Ithaca, NY
Hydroponic Production, OH	124,000	0		The Ohio State University	Columbus, OH
Improved Dairy Management Practices, PA	243,000	0	0	The Pennsylvania State University	University Park, PA
Improved Fruit Practices, MI	147,000	0	0	Michigan State University	East Lansing, MI
Increasing Shelf Life of Agricultural Commodities, ID	603,000	0	0	University of Idaho	Moscow, ID
Infectious Disease Research, CO	650,000	0	0	Colorado State University	Fort Collins, CO
Initiative to Improve Blueberry Production and Efficiency, GA	209,000	0	0	University of Georgia	Athens, GA
Inland Marine Aquaculture, VA	400,000	0	0	Virginia Polytechnic and State University	Blacksburg, VA
Institute for Food Science and Engineering, AR	775,000	0	0	University of Arkansas	Fayetteville, AR
Integrated Economic	188,000	0	0	Purdue University	West Lafayette, IN

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
and Technical Analysis of Sustainable Biomass Energy Systems, IN					
Integrated Pest Management	2,415,000	2,410,170	2,362,000	University of California	Davis, CA
				Colorado State University	Fort Collins, CO
				Purdue University	West Lafayette, IN
				Kansas State University	Manhattan, KS
				Louisiana State University	Baton Rouge, LA
				University of Massachusetts	Amherst, MA
				University of Maryland	College Park, MD
				Michigan State University	East Lansing, MI
				North Carolina State University	Raleigh, NC
				Cornell University	Ithaca, NY
				The Pennsylvania State University	University Park, PA
				Clemson University	Clemson, SC
				Oregon State University	Corvallis, OR
				Texas A&M University	College Station, TX
				Virginia Polytechnic and State University	Blacksburg, VA
				Washington State University	Pullman, WA
Integrated Production Systems, OK	177,000	0	0	Oklahoma State University	Stillwater, OK

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
International Arid Lands Consortium, AZ	401,000	0	0	University of Arizona	Tucson, AZ
Invasive Plant Management, MT	270,000	0	0	Montana State University	Bozeman, MT
IR-4 Minor Crop Pest Management	12,180,000	12,155,640	11,913,000	University of California	Davis, CA
				University of Florida	Gainesville, FL
				Michigan State University	East Lansing, MI
				Rutgers University	New Brunswick, NJ
				Cornell University	Ithaca, NY
Joint U.S.-China Biotechnology Research and Extension, UT	210,000	0	0	Utah State University	Logan, UT
Leopold Center Hypoxia Project, IA	105,000	0	0	Iowa State University	Ames, IA
Livestock and Dairy Policy, NY and TX	693,000	0	0	Cornell University	Ithaca, NY
				Texas A&M University	College Station, TX
Maple Research, VT	165,000	0	0	University of Vermont	Burlington, VT
Meadow Foam, OR	180,000	0	0	Oregon State University	Corvallis, OR
Michigan Biotechnology Consortium	384,000	0	0	Michigan State University	East Lansing, MI
Midwest Center for Bioenergy Grasses, IN	188,000	0	0	Purdue University	West Lafayette, IN
Midwest Poultry Consortium, IA	471,000	0	0	Iowa State University	Ames, IA
Milk Safety, PA	821,000	0	0	The Pennsylvania State University	University Park, PA
Minor Use Animal Drugs	429,000	0	0	University of California	Davis, CA
				University of Florida	Gainesville, FL

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
				Iowa State University	Ames, IA
				Cornell University	Ithaca, NY
Molluscan Shellfish, OR	253,000	0	0	Oregon State University	Corvallis, OR
Multicommodity Research, OR	244,000	0	0	Oregon State University	Corvallis, OR
National Beef Cattle Genetic Evaluation Consortium, NY, CO, and GA	655,000	0	0	Colorado State University	Fort Collins, CO
				University of Georgia	Athens, GA
				Cornell University	Ithaca, NY
National Center for Soybean Biotechnology, MO	690,000	0	0	University of Missouri	Columbia, MO
Nematode Resistance Genetic Engineering, NM	209,000	0	0	New Mexico State University	Las Cruces, NM
Nevada Arid Rangelands Initiative	500,000	0	0	University of Nevada	Reno, NV
New Century Farm, IA	350,000	0	0	Iowa State University	Ames, IA
New Crop Opportunities, KY	525,000	0	0	University of Kentucky	Lexington, KY
New Satellite and Computer-based Technology for Agriculture, MS	654,000	0	0	Mississippi State University	Starkville, MS
Oil Resources from Desert Plants, NM	176,000	0	0	New Mexico State University	Las Cruces, NM
Organic Cropping, OR	149,000	0	0	Oregon State University	Corvallis, OR
Organic Cropping, WA	264,000	0	0	Washington State University	Pullman, WA
Organic Waste		0	0	New Mexico State	Las Cruces, NM

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Utilization, NM	69,000			University	
Peach Tree Short Life Research, SC	195,000	0	0	Clemson University	Clemson, SC
Perennial Wheat, WA	98,000	0	0	Washington State University	Pullman, WA
Pest Management Alternatives	1,434,000	1,431,132	1,402,000	USDA-Agricultural Research Service	Albany, CA
				University of Florida	Gainesville, FL
				Michigan State University	East Lansing, MI
				Cornell University	Ithaca, NY
				Oregon State University	Corvallis, OR
				Clemson University	Clemson, SC
				University of Washington	Corvallis, OR
Phytophthora Research, GA	178,000	0	0	University of Georgia	Athens, GA
Phytophthora Research, MI	346,000	0	0	Michigan State University	East Lansing, MI
Phytosensors for Crop Security and Precision Agriculture, TN	1,000,000	0	0	University of Tennessee	Knoxville, TN
Pierce's Disease, CA	2,000,000	0	0	University of California	Davis, CA
Policy Analyses for National Secure and Sustainable Food, Fiber, Forestry and Energy Program , TX	200,000	0	0	Texas A&M University	College Station, TX
Potato Breeding Research Program	1,436,000	1,433,128	1,350,000	Colorado State University	Fort Collins, CO
				University of Maine	Orono, ME

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
				North Dakota State University	Fargo, ND
				Washington State University	Pullman, WA
Potato Cyst Nematode, ID	349,000	0	0	University of Idaho	Moscow, ID
Precision Agriculture, AL	419,000	0	0	Auburn University	Auburn, AL
Precision Agriculture, KY	671,000	0	0	University of Kentucky	Lexington, KY
Preharvest Food Safety, KS	500,000	0	0	Kansas State University	Manhattan, KS
Preservation and Processing Research, OK	174,000	0	0	Oklahoma State University	Stillwater, OK
Protein Production for Research to Combat Viruses and Microbes, CT	500,000	0	0	University of Connecticut	Storrs, CT
Protein Utilization, IA	600,000	0	0	Iowa State University	Ames, IA
Rangeland Ecosystems Dynamics, ID	300,000	0	0	University of Idaho	Moscow, ID
Regional Barley Gene Mapping Project, OR	471,000	0	0	Oregon State University	Corvallis, OR
Regionalized Implications of Farm Programs, MO and TX	595,000	0	0	University of Missouri	Columbia, MO
				Texas A&M University	College Station, TX
Renewable Energy and Products, ND	1,000,000	0	0	North Dakota State University	Fargo, ND
Rice Agronomy, MO	174,000	0	0	University of Missouri	Columbia, MO

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Ruminant Nutrition Consortium, MT, ND, SD, and WY	563,000	0	0	South Dakota State University	Brookings, SD
Rural Policies Institute, NE, IA, and MO	889,000	0	0	University of Missouri	Columbia, MO
Rural Renewable Energy Research and Education Center, WI	500,000	0	0	University of Wisconsin	Madison, WI
Russian Wheat Aphid, CO	250,000	0	0	Colorado State University	Fort Collins, CO
Seed Technology, SD	350,000	0	0	South Dakota State University	Brookings, SD
Small Fruit Research, OR, WA, and ID	307,000	0	0	Oregon State University	Corvallis, OR
Soil-borne Disease Prevention in Irrigated Agriculture, NM	187,000	0	0	New Mexico State University	Las Cruces, NM
Southern Great Plains Dairy Consortium, NM	350,000	0	0	New Mexico State University	Las Cruces, NM
Southwest Consortium for Plant Genetics and Water Resources, NM	271,000	0	0	New Mexico State University	Las Cruces, NM
Soybean Cyst Nematode, MO	556,000	0	0	University of Missouri	Columbia, MO
Soybean Research, IL	745,000	0	0	University of Illinois	Urbana-Champaign, IL
Specialty Crops, AR	175,000	0	0	University of Arkansas	Fayetteville, AR
Specialty Crops, IN	235,000	0	0	Purdue University	West Lafayette, IN
STEEP III - Water Quality in Northwest	444,000	0	0	Washington State University	Pullman, WA
Sustainable	357,000	0	0	University of	Santa Cruz, CA

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Agriculture, CA				California	
Sustainable Agriculture, MI	266,000	0	0	Michigan State University	East Lansing, MI
Sustainable Agriculture and Natural Resources, PA	142,000	0	0	The Pennsylvania State University	University Park, PA
Sustainable Beef Supply, MT	682,000	0	0	Montana State University	Bozeman, MT
Sustainable Engineered Materials from Renewable Sources, VA	485,000	0	0	Virginia Polytechnic and State University	Blacksburg, VA
Sustainable Production and Processing Research for Lowbush Specialty Crops, ME	200,000	0	0	University of Maine	Orono, ME
Swine and Other Animal Waste Management, NC	349,000	0	0	North Carolina State University	Raleigh, NC
Technology for Irrigated Vegetable Production, SC	500,000	0	0	Clemson University	Clemson, SC
Texas Obesity Research Project Tick Borne Disease Prevention, RI	500,000	0	0	Texas A&M University	College Station, TX
	280,000	0	0	University of Rhode Island	Kingston, RI
Tillage, Silviculture, Waste Management, LA	200,000	0	0	Louisiana State University	Baton Rouge, LA
Tri-state Joint Peanut Research, AL	413,000	0	0	Auburn University	Auburn, AL
Tropical and Subtropical Research/T-Star	6,677,000	0	0	American Samoa Community College	Pago Pago, AS
				University of Florida	Gainesville, FL

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
				University of Guam	Chamorro, GU
				University of Hawaii	Manoa, HI
				University of Puerto Rico	Mayaguez, PR
				University of the Virgin Islands	St. Croix, VI
Tropical Aquaculture, FL	300,000	0	0	University of Florida	Gainesville, FL
Virtual Plant Database Enhancement Project, MO	588,000	0	0	University of Missouri	Columbia, MO
Virus-free Wine Grape Cultivars, WA	260,000	0	0	Washington State University	Pullman, WA
Viticulture Consortium, CA, NY, and PA	1,454,000	0	0	University of California	Davis, CA
				Cornell University	Ithaca, NY
Water Conservation, KS	500,000	0	0	Kansas State University	Manhattan, KS
Water Use Efficiency and Water Quality Enhancements, GA	346,000	0	0	University of Georgia	Athens, GA
Wetland Plants, LA	200,000	0	0	Louisiana State University	Baton Rouge, LA
Wheat Genetic Research, KS	1,000,000	0	0	Kansas State University	Manhattan, KS
Wildlife/Livestock Disease Research Partnership, WY	300,000	0	0	University of Wyoming	Laramie, WY
Wood Utilization, AK, ID, LA, ME, MI, MN, MS, NC, OR, TN, and WV	4,841,000	0	0	University of Alaska	Fairbanks, AK
				University of Idaho	Moscow, ID
				Louisiana State	Baton Rouge, LA

NIFA SPECIAL RESEARCH GRANTS FUNDING

Special Research Grants	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
				University	
				University of Maine	Orono, ME
				Michigan State University	East Lansing, MI
				University of Minnesota	St. Paul, MN
				Mississippi State University	Starkville, MS
				North Carolina State University	Raleigh, NC
				Oregon State University	Corvallis, OR
				University of Tennessee	Knoxville, TN
				West Virginia University Research Corporation	Morgantown, WV
Wool Research, MT, TX, and WY	206,000	0	0	University of Montana	Bozeman, MT
				Texas A&M University	College Station, TX
				University of Wyoming	Laramie, WY
World Food and Health Initiative, IL	461,000	0	0	University of Illinois	Urbana-Champaign, IL
TOTAL, SPECIAL RESEARCH GRANTS	$105,214,000	$18,990,942	$19,830,000		

Federal Administration

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record of all federal administration grants, including the amount, recipient(s) and location of recipient(s), for fiscal years 2010 through 2012.

Response: The information is submitted for the record. No funds were provided in 2011 and 2012 for these projects.

[The information follows:]

NIFA FEDERAL RESEARCH ADMINISTRATION GRANTS FUNDING

Federal Administration Grants Research	**FY 2010 Funding ($)**	**FY 2011 Funding ($)**	**FY 2012 Funding ($)**	**Recipients**	**Recipient Location**
Ag-based Industrial Lubricants, IA	405,000	0	0	University of Northern Iowa	Cedar Falls, IA
Agriculture Development in the American Pacific, HI	400,000	0	0	University of Hawaii	Manoa, HI
Agriculture Waste Utilization, WV	500,000	0	0	West Virginia State College Research and Development Corporation	Institute, WV
Animal Health Research Diagnostics, KY	300,000	0	0	Murray State University	Murray, KY
Animal Waste Management, OK	274,000	0	0	Oklahoma State University	Stillwater, OK
Applied Agriculture and Environmental Research, CA	693,000	0	0	California State University	Fresno, CA
Aquaculture, OH	623,000	0	0	The Ohio State University	Columbus, OH
Aquaculture Research and Education Center, PA	300,000	0	0	Cheyney University	Cheyney, PA
Best Practices in Agriculture Waste Management, CA	300,000	0	0	California Polytehnic State	San Luis Obispo, CA

Federal Administration Grants Research	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
				University	
Biotechnology Research, MS	480,000	0	0	Alcorn State University	Lorman, MS
Cellulosic Biomass, SC	469,000	0	0	Claflin University	Orangeburg, SC
Center for Agricultural and Rural Development, IA	412,000	0	0	Iowa State University	Ames, IA
Center for Food Industry Excellence, TX	946,000	0	0	Texas Tech University	Lubbock, TX
Center for Innovative Food Technology, OH	793,000	0	0	Center for Innovative Food Technology	Toledo, OH
Center for North American Studies, TX	693,000	0	0	Texas A&M University	College Station, TX
Center for Renewable Transportation Fuel, MI	500,000	0	0	Wayne State University	Detroit, MI
Centers for Dairy and Beef Excellence, PA	340,000	0	0	Center for Dairy Excellence and the Center for Beef Excellence	Harrisburg, PA
Clemson University Veterinary Institute, SC	1,000,000	0	0	Clemson University	Clemson, SC
Climate Forecasting, FL	2,494,000	0	0	Florida State University	Tallahassee, FL

Federal Administration Grants Research	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Cotton Research, TX	1,730,000	0	0	Texas Tech University	Lubbock, TX
Council for Agriculture Science and Technology	110,000	0	0	Council for Agriculture Science and Technology	Ames, IA
Dietary Intervention, OH	866,000	0	0	The Ohio State University	Columbus, OH
				University of Toledo	Toledo, OH
Ethnobotanicals, MD	550,000	0	0	Frostburg State University	Frostburg, MD
Farmland Preservation, OH	160,000	0	0	The Ohio State University	Columbus, OH
Florida Biomass to Biofuels Conversion Program, FL	300,000	0	0	University of Central Florida	Orlando, FL
Greenhouse Nurseries, OH	1,380,000	0	0	University of Toledo	Toledo, OH
High Value Horticultural Crops, VA	502,000	0	0	Institute for Advanced Learning and Research	Danville, VA
International Center for Food Technology Development to Expand Markets, IN	750,000	0	0	Purdue University	West Lafayette, IN
Kansas Biobased Polymer Initiative	750,000	0	0	Kansas Bioscience Authority	Olathe, KS

Federal Administration Grants Research	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Mariculture, NC	220,000	0	0	University of North Carolina	Wilmington, NC
Medicinal and Bioactive Crops, TX	300,000	0	0	Stephen F. Austin State University	Nacogdoches, TX
Midwest Agribusiness Trade and Information Center, IA	187,000	0	0	Iowa State University	Ames, IA
Mississippi Valley State University, Curriculum Development	1,002,000	0	0	Mississippi Valley State University	Itta Bena, MS
Monitoring Agricultural Sewage Sludge Application, OH	500,000	0	0	University of Toledo	Toledo, OH
NE Center for Invasive Plants, CT, VT, and ME	295,000	0	0	University of Connecticut	Storrs, CT
Nutrition Research, NY	188,000	0	0	City Harvest, Inc.	New York, NY
Nutrition and Diet Research, CA	925,000	0	0	Loma Linda University	Loma Linda, CA
Pasteurization of Shell Eggs, MI	935,000	0	0	Michigan Research Institute	Ann Arbor, MI
PM-10 Study, WA	268,000	0	0	Washington State University	Pullman, WA
Polymer Research, KS	2,000,000	0	0	Pittsburg State University	Pittsburg, KS
Rural Agriculture	500,000	0	0	University of	Pittsburgh,

Federal Administration Grants Research	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Small Business Development Program				Pittsburgh	PA
Rural Systems, MS	215,000	0	0	Jackson State University	Jackson, MS
Shrimp Aquaculture, AZ, HI, LA, MA, MS, SC, and TX	2,908,000	0	0	The Oceanic Institute	Waimanalo, HI
				University of Southern Mississippi	Hattiesburg, MS
Sustainable Agricultural Freshwater Conservation, TX	1,434,000	0	0	Sul Ross State University	Alpine, TX
University of Wisconsin - Stevens Point Institute for Sustainable Technologies	1,400,000	0	0	University of Wisconsin	Stevens Point, WI
Viral Hemorrhagic Septicemia, MI	500,000	0	0	Michigan State University	East Lansing, MI
Viral Hemorrhagic Septicemia, OH	150,000	0	0	University of Toledo	Toledo, OH
Vitis Gene Discovery, MO	422,000	0	0	University of Missouri	Columbia, MO
Water Pollutants, WV	500,000	0	0	Marshall University Research Corporation	Huntington, WV
Total, Research Federal	**$33,869,000**	**0**	**0**		

Federal Administration Grants Research	**FY 2010 Funding ($)**	**FY 2011 Funding ($)**	**FY 2012 Funding ($)**	**Recipients**	**Recipient Location**
Administration Grants					
Federal Administration Grants					
Extension					
Childhood Farm Safety, IA	75,000	0	0	Farm Safety 4 Just Kids	Urbandale, IA
Conservation Technology Transfer, WI	376,000	0	0	University of Wisconsin	Madison, WI
Dairy Education, IA	175,000	0	0	Northeast Iowa Community College	Calmar, IA
Diabetes Detection and Prevention, WA and PA	1,033,000	0	0	University of Hawaii	Manoa, HI
				Joslin Diabetes Center, Inc.	Boston, MA
				New Mexico State University	Las Cruces, NM
				The Pennsylvania State University	University Park, PA
				Temple University	Philadelphia, PA

Federal Administration Grants Research	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
				Washington State University	Pullman, WA
				West Virginia State University	Institute, WV
E-Commerce, MS	231,000	0	0	Mississippi State University	Starkville, MS
Efficient Irrigation, NM and TX	1,610,000	0	0	Texas A&M University	College Station, TX
Extension Specialist, MS	98,000	0	0	Mississippi State University	Starkville, MS
Food Production Education, VT	120,000	0	0	Vermont Community Foundation	Middlebury, VT
Health Education Leadership, KY	590,000	0	0	University of Kentucky	Lexington, KY
Income Enhancement Demonstration, OH	864,000	0	0	EISC, Inc.	Toledo, OH
Institute for Sustainable Agriculture, WI	400,000	0	0	University of Wisconsin	Madison, WI
Invasive Phragmites Control and Outreach, MI	155,000	0	0	Michigan State University	East Lansing, MI
Iowa Vitality Center	250,000	0	0	Iowa State University	Ames, IA
Maine Cattle Health Assurance Program	700,000	0	0	Maine Department of Agriculture	Augusta, ME
National Center for Agriculture	170,000	0	0	Northeast Iowa	Calmar, IA

Federal Administration Grants Research	FY 2010 Funding ($)	FY 2011 Funding ($)	FY 2012 Funding ($)	Recipients	Recipient Location
Safety, IA				Community College	
Nutrition Enhancement, WI	950,000	0	0	University of Wisconsin	Madison, WI
Ohio-Israel Agriculture Initiative	700,000	0	0	The Negev Foundation	Cleveland, OH
Pilot Technology Transfer, OK and MS	209,000	0	0	Mississippi State University	Starkville, MS
				Oklahoma State University	Stillwater, OK
Pilot Technology Transfer, WI	174,000	0	0	University of Wisconsin	Madison, WI
Potato Integrated Pest Management, ME	450,000	0	0	University of Maine	Orono, ME
Potato Pest Management, WI	277,000	0	0	University of Wisconsin	Madison, WI
Range Improvement, NM	223,000	0	0	New Mexico State University	Las Cruces, NM
University of Wisconsin-Extension Northern Aquaculture Demonstration Facility	450,000	0	0	University of Wisconsin	Madison, WI
Urban Horticulture, WI	376,000	0	0	University of Wisconsin	Madison, WI
Urban Horticulture and Marketing, IL	175,000	0	0	Chicago Botanic Garden	Glencoe, IL
Veterinary	1,000,000	0	0	Colby	Colby, KS

Federal Administration Grants Research	**FY 2010 Funding ($)**	**FY 2011 Funding ($)**	**FY 2012 Funding ($)**	**Recipients**	**Recipient Location**
Technology Satellite Program, KS				Community College	
Total, Extension Federal Administration Grants	$11,831,000	$0	$0		
TOTAL, FEDERAL ADMINISTRATION GRANTS	$45,700,000	$0	$0		

Rural Development Centers

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record of funding provided to the rural development centers through NIFA's integrated program for fiscal years 2009 through 2012. Include a summary of how the funding was used.

Response: The information is submitted for the record.

[The information follows:]

Regional Rural Development Centers					
FY	Northeast Region	Southern Region	North Central	Western Region	Total

			Region		
2009	$312,256	$312,256	$312,256	$312,256	$1,249,024
2010	$312,256	$312,256	$312,256	$312,256	$1,249,024
2011	$237,524	$237,524	$237,524	$237,524	$950,096
2012	$237,444	$237,444	$237,444	$237,445	$949,777

The Centers work with land grant institutions to build the capacity within the region to conduct and support effective rural development activities. They encourage and support university-based faculty to conduct research that addresses critical and emerging rural development issues and to use their knowledge and resources in outreach to help rural communities and citizens. They coordinate and integrate research, education, and extension efforts among states and link the resources of land-grant universities with local decision-makers, rural residents, and diverse partners to address a wide range of national and regional rural development issues.

The four Centers have leveraged more than 3 dollars of extramural funding for every dollar that NIFA invested over the period of FYs 2009, 2010, and 2011. In FY 2012, they project that this ratio will be in the range of 4 dollars of extramural funding for every 1 invested by NIFA. These leveraged funds continue to support efforts previously reported, such as entrepreneurship, e-commerce, the changing interface between rural, suburban, and urban places, and workforce quality and jobs creation.

Small Business Innovative Research- SBIR

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record of all projects funded through Small Business Innovation Research program for fiscal years 2009 through 2012.

Response: Below is a list of USDA Small Business Innovation Research (SBIR) Phase I and Phase II projects funded for FYs 2009, 2010, and 2011. For FY 2012, the USDA SBIR anticipates funding 62 Phase I projects totaling $6,134,159 and 25-28 Phase II projects at a cost of $450,000 per project.

[The information follows:]

Higher Education Challenge Grants

Mr. Kingston: Please provide a chart showing the allocation of Higher Education Challenge Grants for fiscal years 2010 and 2011.

Response: This is a competitive program and awards have not been determined in FY 2012. The information is submitted for the record. Higher Education Challenge Grants for fiscal year 2012 have not yet been awarded. The total cost in 2012 is expected to be $4,770,000, including $191,000 in Federal Administration costs and $18,000 for the cost of the peer panel.

[The information follows:]

	Fiscal Year 2010 ($)	Fiscal Year 2011 ($)
Appalachian State University	0	$140,000
Auburn University	307,000	0
Colorado State University . .	0	140,000
California State University .	0	140,000
Chicago State University . .	0	140,000
Kansas State University . . .	0	168,000
The Pennsylvania State Univ.	0	140,000
University of Arizona	455,000	0
University of California. . .	464,000	281,000
University of Florida	15,000	716,000
University of Connecticut . .	0	140,000
University of Georgia	140,000	0
University of Idaho	461,000	0
University of Minnesota . . .	0	701,000
University of Missouri . . .	0	261,000
University of Nebraska . . .	0	28,000
University of Tennessee . . .	0	408,000
University of Wisconsin . . .	0	140,000
Purdue University	466,000	0
Iowa State University of Science and Technology . .	775,000	280,000
Michigan State University . .	288,000	0
The University of Montana . .	140,000	0
University of Nevada, Reno .	100,000	0
State University of New York	224,000	95,000
University of North Carolina at Greensboro	466,000	280,000
Saint Joseph's University . .	0	128,000
The Ohio State University . .	888,000	0
South Dakota State University	139,000	280,000
Virginia Polytechnic Institute and State University	68,000	774,000
Subtotal	5,396,000	5,380,000
Federal Administration . . .	226,000	225,000
Peer Panel Cost	32,000	37,000
Total	5,654,000	5,642,000

Hispanic Education Partnership Grants

Mr. Kingston: Please provide a chart showing the allocation of Hispanic Education Partnership Grants for fiscal years 2010 through 2012.

Response: This is a competitive program and awards have not been determined in FY 2012, although the FY 2012 total is expected to be $4,770,000, including $191,000 for Federal Administration fees and $18,000 for peer panel costs. The information is submitted for the record.

[The information follows:]

	Fiscal Year 2010 ($)	Fiscal Year 2011 ($)
South Mountain Community College	0	$289,000
California State University Los Angeles.	$290,000	0
California State University, Fresno	535,000	0
California State University Fullerton	0	555,000
California State University, Northridge	285,000	0
California State University Pomona		573,000
California State University, San Marcos	247,000	0
California State University, Stanislaus	247,000	0
Dominican University, CA	0	229,000
University of La Verne, CA . . .	0	244,000
Rancho Santiago Community College District	290,000	0
The Regents of the University Of California	290,000	289,000
University Enterprises Corp, CA .	0	501,000
West Hills Community College District	248,000	0
Colorado, Otero Junior College	290,000	0
Broward College, FL	0	287,000
Florida International University	290,000	800,000
University of Florida	25,000	24,000
Northeastern Illinois University	538,000	0
Eastern New Mexico University . .	280,000	0
New Mexico Highlands University	290,000	0
New Mexico State University.. . .	290,000	800,000

	Fiscal Year 2010 ($)	Fiscal Year 2011 ($)
Regents of the University of New Mexico	290,000	0
University of Puerto Rico	290,000	289,000
University of Puerto Rico Mayaguez	0	800,000
Houston Community College System, Texas	689,000	245,000
Laredo Community College, Texas	291,000	0
St. Edward's University, Texas	315,000	0
Sul Ross State Univ., Texas. . .	290,000	0
Texas A&M University, Kingsville	580,000	800,000
Texas A&M University, Corpus Christi	537,000	247,000
Texas State Univ.-San Marcos . .	0	800,000
The University of Texas at El Paso	290,000	800,000
The University of Texas at San Antonio	580,000	0
University of Texas-Pan American		245,000
University of Houston-Downtown, Texas	2 47,000	0
Subtotal	8,834,000	8,817,000
Federal Administration.	370,000	368,000
Peer Panel Costs	33,000	33,000
Total	9,237,000	9,218,000

Collaborative Research

Mr. Kingston: Please summarize NIFA's collaborative research projects with the National Science Foundation and other federal research agencies for fiscal years 2009 through 2012. Also describe NIFA's plans for fiscal year 2013. Include the name of the projects, funding levels and purpose.

Response: During FYs 2009 through 2012, NIFA collaborated on research projects with the National Science Foundation (NSF), Department of Energy (DOE), Environmental Protection Agency (EPA), National Institutes of Health (NIH), and the National Aeronautics and Space Administration.

[The information follows:]

1. Dual Benefit: Research in Biomedicine and Agriculture Using Agriculturally Important Domestic Species. The funding level for this project is $5 million for FYs 2011 through 2013. The purpose of this collaborative effort between NIFA and NIH is to stimulate and strengthen the application of domestic agricultural species to refine animal models utilized to address and elucidate specific complex biological mechanisms important to both biomedicine and agriculture. The focus of this high-quality research is to target specific and important biological problems that are very similar, if not identical, in both animal agriculture and human health. An example of the biological problems and potential research includes the reduction of adiposity in livestock and obesity in humans, ameliorating insulin resistance in dairy cattle and humans, and improvement in assisted reproductive technologies for both livestock and humans.

2. Plant Feedstock Genomics for Bioenergy. The funding level for this project is $2 million for FY 2009 through 2012. The purpose of this collaborative research project between NIFA and DOE is to support genomics based research that will lead to the improved use of biomass and plant feedstocks for the production of fuels such as ethanol or renewable chemical feedstocks. Specifically, applications are sought for fundamental research on plants that will improve biomass characteristics, biomass yield, or sustainability. Systems biology approaches to identify genetic indicators enabling plants to be efficiently bred or manipulated, or research to predict phenotype from underlying genotype that could lead to improved feedstock characterization and sustainability are also encouraged.

3. Decadal and Regional Climate Prediction Using EarthSystem Models. The funding level for this project is $10 million for 2010 and $5 million for FY 2011 and FY 2013. The purpose of this DOE, NIFA, and NSF interagency project is to focus on one of the most pressing problems of the millennium: climate change, its potential to affect our world, and how we can plan for its consequences. It is designed to support the next-generation Earth System Models that include coupled and interactive representations of such things as ocean and atmospheric currents, human activities, agricultural working lands and forests, urban environments, biogeochemistry, atmospheric chemistry, the water cycle and land ice. This initiative seeks to attract scientists from the disciplines of geosciences, social sciences, agricultural and biological sciences, mathematics and statistics, physics, and chemistry. The long-term goals of this initiative are to improve on and extend current Earth System modeling capabilities to:

1. Achieve comprehensive, reliable global and regional predictions of decadal climate variability and change through advanced understanding of the coupled interactive physical, chemical, biological, and human processes that drive the climate system.
2. Quantify the impacts of climate variability and change on natural and human systems, and identify and quantify feedback loops.
3. Maximize the utility of available observational and model data for impact, vulnerability/resilience, and risk assessments through up/downscaling activities and uncertainty characterization.
4. Effectively translate climate predictions and associated uncertainties into the scientific basis for policy and management decisions related to human interventions and adaptation to the projected impacts of climate change.

4. Ecology and Evolution of Infectious Diseases. The funding level for this project is $2.5 million for FY 2012. The federal agencies involved in this collaboration are NIFA, NIH, and NSF in coordination with the U.K. Biotechnology and Biological Sciences Research Council (BBSRC). The emergence and re-emergence of numerous infectious diseases around the world is accelerating. Simultaneously, unprecedented rates of change in the structure and diversity of the environment and social and economic systems are occurring. While basic principles of simple agricultural and human systems are better understood, integrating the pieces into a useable framework to respond to disease challenges is extremely challenging. This program focuses on integrating basic and applied research within very complex agricultural systems to develop predictive models of disease transmission for plant, animal and food safety pathogens. The discovery, building and testing of models will lead to:

- improved understanding of how diseases (re)emerge;
- increased ability to forecast outbreaks; and,
- identification of practical strategies to mitigate or prevent infectious diseases and improve biosecurity.

This program also links medical and veterinary science, often known as "One Health," by drawing on a common pool of knowledge between the two sectors to exploit the potential of animal disease research to provide insights into ecosystem, agricultural, and human health.

5. **Water Sustainability and Climate.** The funding level for this project is $5 million for FY 2012. This goal of this collaborative research project between NIFA and NSF is to understand and predict the interactions between the water system and climate change, land use (including agriculture, managed forest and rangeland systems), the built environment, and ecosystem function and services through place-based research and integrative models. Studies of the water system using models and/or observations at specific sites singly or in combination that allow for spatial and temporal extrapolation to other regions, as well as integration across the different processes in that system are encouraged, especially to the extent that they advance the development of theoretical frameworks and predictive understanding. Specific topics of interest include: Developing theoretical frameworks and models that incorporate the linkages and feedbacks among atmospheric, terrestrial, aquatic, oceanic, and social processes that can be used to predict the potential impact of (1) climate variability and change, (2) land use and (3) human activity on water systems on decadal to centennial scales in order to provide a basis for adaptive management of water resources. Determining the inputs, outputs, and potential changes in water budgets and water quality in response to (1) climate variability and change, (2) land use and (3) human activity, and the effect of these changes on Biogeochemical cycles, water quality, long-term chemical transport and transformation, terrestrial, aquatic and coastal ecosystems, landscape evolution and human settlements and behavior. Determining how our built water systems and our governance systems can be made more reliable, resilient and sustainable to meet diverse and often conflicting needs, such as minimizing consumption of water for energy generation, industrial and agricultural/forest rangeland production and built environment requirements, reuse for both potable and non-potable needs, ecosystem protection, and flood control and storm water management.

6. **Disaster Resilience for Rural Communities.** The funding level for this project was $1 million dollars for fiscal year 2009 through 2011. The purpose of this effort between NIFA and NSF was to advance basic research in engineering and in the social, behavioral, and economic sciences on enhancing disaster resilience in rural communities. Residents in the United States experience droughts, earthquakes, floods, hurricanes, tornadoes, tsunamis, and volcanic eruptions as well as accidents at facilities that handle dangerous materials such as explosive chemicals. These phenomena will continue, but their consequences need not be disastrous if communities and people reduce their vulnerabilities and increase their resilience. There is much research on vulnerability and

resilience in urban communities, but much less about how rural communities and their residents are responding to natural and man-made hazards.

7. Microbial Genome Sequencing. The funding level for this project was $5 million in FY 2009. This program was initiated by CSREES in 2000 and NSF joined in 2001. This project supported high throughput sequencing of the genomes of a wide range of microorganisms (including viruses, bacteria, archaea, fungi, oomycetes, protists and agriculturally important nematodes) that are either of fundamental biological interest, are important to the national interest, to the productivity and sustainability of agriculture and forestry, or to the safety and quality of the Nation's food supply. This program also supports the development and implementation of strategies, tools and technologies to make currently available genome sequences more valuable to the user community. Genomes funded through this program greatly facilitate future research. For example, the genome of *Fusarium graminearum* (the fungal pathogen responsible for head blight disease of wheat and barley) was released in 2003, with the number of *F. graminearum* publications nearly tripling over the next 5 years.

8. Enhancing Ecosystem Services from Agricultural Lands. The funding level for this project was $3.5 million in FY 2009. This joint research project between EPA and NIFA supported research on the ecosystem services in agricultural settings, including both agroecosystems and ecosystems that are impacted by agriculture. The program seeks to quantify ecosystem services, identify risks due to different stressors, and develop strategies to reduce negative environmental impacts while enhancing ecosystem services provided by working lands. Ecosystem services of interest were related to climate change, water availability, reactive nitrogen, pests, weeds, invasive species, and soil and land degradation. EPA is the partner agency.

9. Nanotechnology. The funding level for this project was $1 million in FY 2010. This joint research project between EPA, NIFA, and NSF was designed to support and provide data that improves the scientific understanding of fate/transport and behavior of engineered nanomaterials. Specifically, proposals were funded that supported fundamental and applied research related to engineered nanomaterials in the following two areas: evaluation of potential exposures to engineered nanomaterials including an exploration of environmental and biological fate, transport, and transformation of these materials throughout their lifetimes; and increasing the scientific understanding of engineered nano-scale additives and ingredients intentionally introduced into food matrices for delivery of important micronutrients and modification of sensory attributes.

Peer Review Panels

Mr. Kingston: How many peer panels were convened in fiscal year 2011? How many are expected to be convened in fiscal year 2012?

Response: In fiscal year (FY) 2011, an estimated 80 peer panels convened. During 2012, NIFA expects to hold about the same number as in 2011, or possibly more, to include new panels not held in previous years, such as those needed for new programs initiated in 2012.

Mr. Kingston: Please provide a list of total honoraria and travel paid by NIFA for peer panels for fiscal years 2009 through 2012. What is the budget for peer panels in fiscal year 2013?

Response: In fiscal year (FY) 2009, honoraria costs were $537,116 and travel costs were $1,553,045. In FY 2010, honoraria costs were $376,925 and travel costs were $1,614,656. In FY 2011, honoraria costs were $330,926 and travel costs were $804,677. For FY 2012 peer panel honoraria costs and travel costs are not yet final. FY 2013, estimated costs for peer panel honoraria and travel costs are dependent upon program management decisions and funding levels for NIFA's programs.

Mr. Kingston: Please update the summary provided in the fiscal year 2011 hearing record regarding the Federally Recognized Tribal Extension Program, including potential recipients, number of applicants and a description of the projects that have received funding, for fiscal years 2009 through 2012.

Response: The purpose of this program is to support Extension Agents who establish Extension education programs on Indian Reservations and Tribal jurisdictions of Federally-Recognized Tribes. While this is a competitive grant program, extension offices are established and managed under the auspices of the 1862 Land Grant University in each state. In 2009, NIFA funded 24 new and 4 continuation projects for a total of 28 funded projects. In 2010, the 28 projects were funded under continuation grants. In 2011, 36 FRTEP programs reached 15,000 farmer contacts, 29,000 American Indian youth, 70,000 community contacts, and have improved 131,000 acres of Reservation land. A full detail of the 2011 funded programs follow. The 2012 awards have not been finalized; however FRTEP expects to support 36 Extension Offices in 19 states.

[The information follows:]

Projects Funded in 2011

AK - Tanana Chiefs Conference

The University of Alaska-Fairbanks continues to provide extension education to Alaska Natives living in the remote Tanana Chiefs Conference region. The focus is on youth leadership, food security, natural resources management and protection, energy efficiency, and capacity building for the tribe in these areas. Program development is in direct response to stakeholder input received from the tribes and villages. Delivery mechanisms use a variety of methods taking into account the great distances encountered to reach the villages (e.g., on-line and videoconferencing, phone, fax, mail and site visits). The extension agent has a successful relationship in working with the various communities and takes into account local customs in developing effective educational programs.

AK - Resilience Through Nurturing, Exploration and Wisdom - ReNEW

This project was funded for the first time in 2011. The project director's efforts have focused on program start-up. The first step has been to set up a memorandum of understanding with Dillingham High School and the Executive Director of the Bristol Bay. The project director held a career listening session with village youth and learned that they seek more opportunities to learn and to give back to their communities, and that they are willing to take leadership in making things happen in their communities. In addition, there was an outreach effort for Temporary Aid to Needy Families (TANF) recipients and SAFE, the women and children's shelter in Dillingham, to establish a 4-H presence.

AZ - Hualapai/Havasupai

The University of Arizona serves the Hualapai and Havasupai tribal communities through an extension program focusing on range monitoring activities and animal rearing, including training on the implementation of the National Animal Identification and Country of Origin programs. Tribal 4-H youth programs focused on animal nutrition and care, with an opportunity to show livestock at a fair and learn about record keeping, grooming and marketing. There also were gardening programs to benefit the community including orchard maintenance, gardening and livestock management.

AZ - Hopi

The University of Arizona continues to serve the Hopi tribe through education, training. and outreach in agriculture, youth development, community development and natural resources stewardship. The application clearly outlined the support and leveraged resources of tribal and community partners afforded this project; and the commitment of the tribe to this effort is evident. The extension agent demonstrated a deep understanding of the needs of the community and has been effective in bringing extension programs to the Reservation.

AZ - Colorado River Indian Tribes

The University of Arizona continues to provide extension education programs to the Indian tribes residing on the Colorado River Indian Reservation in western Arizona and eastern California. The focus of the programs includes economic opportunities for agricultural producers, water conservation, nutrition and health, and 4-H technology programs. The FRTEP agent is co-located with county extension staff, providing additional resources for educational opportunities for tribal members.

AZ - San Carlos Apache

The University of Arizona continues the extension education program on the San Carlos Apache Reservation to provide farmers and ranchers with opportunities for improved economic conditions through education on new production techniques, animal disease prevention, and computerize financial record keeping. Healthy lifestyle programs with nutrition training for youth and adults with a special emphasis on diabetes prevention, also was a part of this program.

AZ - Shiprock

The University of Arizona continues to provide 20 communities in the northeastern part of the Navajo Nation known as the Shiprock Agency with technical services and outreach in natural resources, youth development, and range and cattle management. The project also helped the Shiprock community develop an innovative farmers market where the grower participants were able to market their food through a farm-to-school program.

AZ - Navajo Nation-Western Agency - Tuba City

The project director provided 298 participants with beef quality assurance and marketing training, resulting in certification for 41 ranch families. This certification helps producers gain market access through better record keeping and improved vaccination techniques that result in healthier calves and a safer product for the consumer. The project director's presentations on marketing, such as the Navajo Beef Project, have been well received and requested by communities throughout the Navajo Nation.

AZ - Tri-State/Navajo Nation-Window Rock

Program service area were limited to two agencies, in Chinle and Ft. Defiance. There was a junior livestock show and sale, and junior rodeos. In addition, the program provided education in rural entrepreneurship and helped to start community gardens. Rancher beef quality certification and herd health certifications were conducted. The programs typically involve collaborations among veterinarians and food safety experts.

FL - Seminole

The University of Florida continues to serve the Seminole tribal community with an extension program that addresses economic conditions and the needs of tribal youth. One important goal is to support 800 at-risk youth in making positive changes in their lives through reduction of absenteeism from school and better community relations with law enforcement. The program also supports Seminole cattlemen, ranchers, and citrus growers in their efforts to improve the profitability of their operations. Additional efforts help tribal members assess whether and how to expand development of alternative energy and biofuels. The tribe continues to support this project with staff members, allowing extension education programs to reach a broader segment of its population.

CA - Northwest California Tribal Communities Extension Program

The University of California-Davis youth-focused project has two new hires and focus groups have already been conducted among tribes. All four tribes covered under this project have identified youth development and college attendance as a main objective for their people. The tribes said they hope that the next generation can gain an education and return home to work in tribal government as social workers, foresters, and many other roles needed in the community. There is a project with a charter high school in Klamath to present a 4-H career and college exploration program for students, providing information about college and speakers to inspire students.

ID - Coeur d'Alene

The University of Idaho supports the Coeur d'Alene Tribe and non-Indian residents of the Coeur d'Alene Reservation with an extension program that continues to provide youth life skills training and opportunities through the exploration of science and technology, natural resources and cultural arts. The program also offers youth and adults training in financial management, gardening, and environmental stewardship; inform tribal landowners about land tenure issues; and support community development.

ID - Fort Hall

The University of Idaho continues to support the Shoshone-Bannock tribal community through 4-H extension education programs and with programs aimed at assisting agricultural producers. In particular, programs to improve range management and promote safe pesticide use address sustainable agriculture practices. Native American farmers also are trained in using new technology to enhance their productivity and help them thrive in a new, modern production environment. The extension agent has a comprehensive understanding of the community and has experience in delivering programs that are appropriate for the audience.

ID - Nez Perce Tribe Extension Program

This project supports an extension educator and a program assistant to serve the Nez Perce Tribe located on a reservation in the panhandle of Idaho, a currently underserved community. The focus of this project is youth development, natural resource stewardship, and community development.

MI - Toward Sustainable, Sovereign Tribal Food Systems

The Michigan State University project focuses on community gardens, food preservation, nutrition and wellness. The highlight of the program has been youth farm stands that provide education in rural entrepreneurship and community gardening. This program also allowed youth to interact with elders, who received food donations from the program. With a new agent hired in 2012, Michigan State hopes to link the current food producing ventures with possible business incubators in two reservation communities, and bring more Michigan State University Extension programs into tribal communities. The program also has a strong link with the 1994 Land Grant, Bay Mills Community College.

MN - People Land and Water

The University of Minnesota Program continues its highly successful education program about the importance of septic system maintenance and its effect on human health, the environment and agriculture such as protecting fish lakes and wild rice beds. The program includes expansion to larger portions of Indian Country through publications that inform other communities on how to establish similar programs on their reservation. This program alone has increased the amount of clean water available on the reservation by 7.7 million gallons and the agent estimates similar water resources will be protected each year.

MS - Choctaw

Mississippi State University continues to serve the Choctaw Indian community located on eight checkerboard communities through education and outreach designed to promote healthy diets, financial stability, and stronger families. The agriculture community has access to training in production and marketing, with a particular aim at developing and increasing niche markets. This project builds on existing links with other groups serving the Choctaw community such as the Boys and Girls Clubs, Tribal Forestry, Tribal Wildlife Law Enforcement, WIC, and the Choctaw Vocational Rehabilitation Program.

MT - Fort Peck

Montana State University continues to serve the Assiniboine and Fort Peck Sioux tribes through extension programs focused on leadership development, volunteer development, agriculture and value added awareness, and traditional cultural awareness and preservation. Among the outlined targeted activities are efforts to develop an Assiniboine and Sioux Village--with land allocated by the tribes--that depicts traditional and modern day agricultural production. Also, the extension agent continues to develop several newly created 4-H clubs on the Reservation.

MT - Northern Cheyenne

Montana State University continues to provide extension education programs to the residents of the Northern Cheyenne Reservation. Programs are designed to provide agriculture and livestock producers with information to improve beef management practices and improve natural resources and address the needs for a healthy food supply. The program provides 4-H youth development education for tribal youth. Building on past successes, work continues to expand the acreage recaptured from weed infestation and placed into productive growth. Another area of focus is education for producers on the subjects of risk management, rangeland and crop insurance, and financial planning and analysis. Efforts in the youth development area are aimed at increasing the enrollment in the 4-H clubs.

MT - Flathead

Montana State University continues to conduct extension education programs on the Flathead Reservation serving the Confederated Salish and Kootenai tribes. This project promotes sustainable agriculture by providing both youth and adults with agronomic-related education and outreach. There are 155 farms operated by Native Americans in the community whose owners benefit from training in low-impact farming. Food security also is an issue in this community and the project addresses this through educational programs designed to protect the local food system. 4-H youth development programs have a strong health and nutrition component. Coordination occurs with the Extension programs at Salish Kootenai College, the 1994 land-grant institution on this Reservation.

MT - Fort Belknap

Montana State University continues to serve the Fort Belknap tribal community with research-based education and outreach efforts. The farming community receives training and technical assistance to support sustainable farm management for livestock and crop productions. Youth outreach is focused on livestock production and marketing, and a program to provide at-risk youth with enhanced decision-making skills. Family life camps are held to instill cohesiveness between parents and their children. The project builds on existing programs to achieve its goals, making improvements based on ongoing evaluations. The project continues to build on a network of tribal, State, and Federal programs and will incorporate the results of the tribe's strategic planning process in identifying priority areas needing attention.

MT - Blackfeet

Montana State University continues to provide extension education programs to the tribal members of the Blackfeet Reservation. Programs focus on improving range management practices, noxious weed control, animal identification systems, herd health, and financial and production record keeping. The project includes a robust 4-H youth development component, exposing tribal youth to livestock production and management experiences, and natural resources protection practices.

NV - Nevada Indian Tribes

The University of Nevada Cooperative Extension Service continues to serve the Washoe, Shoshone, and Paiute tribal communities with an extension program focused on agricultural education, youth leadership, and alternative energy. Areas of need to be addressed within these subjects were decided by stakeholders through focus group sessions. The project is intended to enhance tribal economies and promote the tribal food supply. The project demonstrates strong collaborative efforts and a commitment to ensuring that tribal priorities guide the program. The implementation plans are well designed and the evaluation plan is well constructed.

NC - Cherokee

North Carolina State University continues extension programs on the Cherokee Reservation in western North Carolina in agriculture, horticulture, and environmental awareness. By promoting farming, gardening, nutritious eating, and healthful cooking, this project addresses the diet and health issues of the community. The applicant presents a comprehensive program that includes partnerships and collaborations with a number of organizations serving the Eastern Band of Cherokee Indians. This project's plans are closely linked with the North Carolina State University's plan of work, focusing on natural resource conservation, enhancing local food systems, and meeting the needs of urban and consumer agriculture (horticulture and home gardening.

NM - Zuni

This New Mexico State program objectives include: (1) improving the profitability of ranching; (2) enhancing the stewardship of grazing lands, protecting watersheds, and improving wildlife habit; (3) improving public health and safety through the control of domestic and prairie dog populations; (4) improving the health and quality of life of the growing numbers of Zunis battling diabetes, obesity, heart disease, and related maladies; and (5) promoting youth development, leadership training, and involvement in entrepreneurial activities. The FRTEP educator helps 33 ranchers form an informal cooperative to sell cattle at auction barns and specialty venues. The tribe is trying to gain much-needed income by assessing grazing fees. To date, 78 of the 98 range units have been evaluated in an effort to do this. Veterinary clinics held in the spring and fall provided the Zuni Reservation $80,000 in free animal health care. The clinic provided rabies vaccination and spaying and neutering for dogs. Controlling the feral dog population has been a problem, and the FRTEP agent will assist the Zuni Tribal Rangers in finding expertise for canine population management.

NM - Jicarilla

The goal of this New Mexico State University program is to improve family welfare and the quality of life on the Jicarilla Apache Reservation by increasing economic opportunity, enhancing natural resource stewardship and promoting healthy lifestyles. Program objectives include: 1. Improving horse and livestock production and management; 2. Developing alternative livestock market opportunities; 3. Improving range management practices, protection of the watersheds and wildlife habit; 4. Increasing youth appreciation and understanding of the natural resource conservation; 5. Promoting youth development, leadership training, and involvement in entrepreneurial activities; and 6. Promoting suicide prevention and reducing bullying. The agent provides clientele with information on equine production, the horse market, wild horse round up, hoof care, de-worming, vaccinations, breeding, transportation and inspection requirements. These individuals also learn three basic livestock management practices that have increased their farm income by 10 percent. Jicarilla livestock producers also learn marketing alternatives from the agent, and 40 learned about the Environmental Quality program provided through NRCS. The agent also helps plan and serves as an instructor for Indian Livestock Days where 202 American Indian producers learned livestock handling techniques, range management and reproductive management.

ND - Extension on the Fort Berthold Indian Reservation

This is the final year of a 4-year continuation award. Agriculture and natural resource goals include improving rangeland health by controlling invasive species and maintaining water and soil quality. Diversifying the agricultural economy is also a priority by increasing the production of locally grown foods through school and community gardens, and working to further develop and expand alternative domestic markets such as the New Town Farmers Market. Goals for 4-H and youth development are to assist tribal youth in developing the personal life skills and marketable job skills that will allow them to develop into healthy and empowered individuals. Nutrition and health goals of improved nutrition and food safety, as well as a reduction in diabetes and obesity, will also be targeted through the promotion of more sustainable forms of agriculture by increasing people's access to fresh and nutritious locally grown produce, and increasing rates of physical activity through active involvement in reservation gardening programs. The recent ascent of energy acquisition in North Dakota has raised concerns for Reservation groundwater supplies at Fort Berthold. The FRTEP program and the Three Affiliated Tribes Environmental Division responded with an EPA-funded water sampling project of private wells across the Reservation, with sampling and analysis continuing during spring 2012. The program also partners with Fort Berthold Community College's Land Lab on a garden project to encourage improved nutrition and increased physical activity.

OK - Muscogee Creek

Oklahoma State University continues to provide the Muscogee (Creek) Nation with an extension program that focuses on youth development, providing school enrichment educational opportunities in public speaking, science, math environmental stewardship, and many other topics. Animal science is available through 4-H, and youth learn how to grade cattle, judge livestock and diagnose animal illness. They also have a chance to compete at county fairs. A shooting sports program that emphasizes safety is available to youth. This project reaches residents of the Nation that includes 8 counties and portions of 3 other counties in Oklahoma. Collaboration with OSU county extension offices throughout the region helps to expand programming for tribal youth. In addition, significant financial support is provided by Creek tribal leadership.

OR - Warm Springs

Through this grant, Oregon State University continues to serve the Confederated Tribes of the Warm Springs Reservation through Extension programs in agriculture and youth development. The FRTEP Extension agent works in a team with other OSU Extension faculty to present comprehensive programming to support rangeland management, cattle and equine management, risk management, community and economic development, family and youth development. The application clearly lays out implementation plans, timelines, and evaluation strategies. Partnerships are extensive. The tribe continues to provide land for the 4-H cattle club and contributes labor and equipment for demonstration field projects.

SD - Pine Ridge

South Dakota State University continues its extension program to help agricultural producers in the Pine Ridge Reservation use natural resources profitably with low-impact farming. There is a youth outreach component through 4-H with opportunities for nature exploration, agricultural projects and a drug and alcohol awareness program. Community adults have access to leadership training and entrepreneurial development. The project director demonstrates a good knowledge of stakeholders, clear project objectives, and a good understanding of how to meet project objectives. This meets the USDA goals of sustainable agriculture, community health and support of rural communities.

SD - Rosebud

South Dakota State University uses this new grant to continue to provide agriculture producers of the Rosebud Reservation with education on sustainable agriculture practices, integrated pest management, and farm management, thereby supporting the USDA goal for promoting sustainable and profitable farms. The project provides Rosebud youth with opportunities for an enhanced quality of life by helping them reconnect to their land, culture and community. There is a youth gardening program. These outreach efforts promote healthy and positive lifestyle choices and vibrant rural communities. The strength of the partnerships and collaborations, including those with Sinte Gleska University, a 1994 Institution, provide continued opportunities for stakeholder input and enhanced opportunities for successful results.

SD - Cheyenne River

The goals of the Cheyenne River Reservation Program are to: 1) provide educational programs in nutrition and horticulture for families, youth, producers, and schools on the reservation; 2) strengthen current nutrition education program offerings through the development of programs that utilize traditional foods; and 3) enhance rural community economic development through the establishment of sustainable horticulture programs and leadership training. An interesting initiative is a Farm to School food distribution effort. The overall strategy for the Cheyenne River office is to collaborate with partner agencies in program offerings as much as possible, especially with other SDSU educators and specialists, Four Bands Community Fund, tribal agencies, and other nongovernmental organizations as appropriate.

WA - Colville

Washington State University continues to support extension activities for the 12 affiliated tribes of the Colville Reservation. Its purpose is to improve agriculture and natural resources management, improve health and wellness and promote positive youth development. Planned Extension educational activities are developed through a comprehensive stakeholder input process involving the Tribal Extension Advisory Committee, Tribal Council, Tribal Cattlemen, Tribal department heads, tribal employees and residents. Implementation plans were enhanced through the development of a team approach among project staff, the tribe, USDA agencies, tribal departments and the Bureau of Indian Affairs that will result in a full-service Extension office. Program objectives are clearly outlined, as are detailed strategies and methods and realistic timelines for implementation.

WA - Kalispel Tribe of Indians - WSU Pend Oreille County Extension

This Washington State program focuses on youth, with projects involving science, gardening, cultural knowledge, and hunting safety. The project director conducts food safety classes with students ages 11-18, which increases youth participation in after school programs. In 2012, the project director will visit elders to gain insights on how to serve the community, modify gardens, and fine-tune youth activities such as the challenge course for Tribal teens.

WI - Wisconsin Bad River Reservation Extension Project

The primary concern in this reservation is childhood obesity and related issues. This proposal aims to engage and educate tribal youth regarding harvesting traditional foods, gardening, and food preparation--activities that have a long cultural tradition at Bad River. The project director and agent are working with the tribal government to create a program for 4-H and youth development. The agent is actively engaged with the Bad River Community Advisory Board to find someone who will engage youth in physical activities and healthy lifestyles. Ultimately, this program will involve Tribal youth in a community-based approach to growing and using traditional food sources. The education effort will cover all aspects of gardening from growing to safe preparation and marketing. In addition, through experiences with traditional foods, tribal youth are learning about biological sciences, natural resources and food systems.

WY - Wind River

The University of Wyoming continues to provide extension education programs to the Shoshone and Arapahoe Tribes of the Wind River Reservation. The project focuses on issues of concern to agriculture and livestock producers, specifically assisting them to use more efficiently the region's natural resources while protecting the land base. The project works to improve tribal youth skills through 4-H youth development programs. Educational programs continue to be developed on range monitoring, noxious weed control, integrated pest management, improved irrigation systems, and efficient use of grazing allotments. The project networks with other federal agencies in providing needed resources.

Global Change and UV Monitoring

Mr. Kingston: Please update the chart provided in the fiscal year 2012 hearing record showing funding for the Global Change and UV Monitoring Program for fiscal years 2009 through 2012.

Response: The information is submitted for the record.

[The information follows:]

Fiscal Year 2009	- $1,408,000
Fiscal Year 2010	- $1,408,000
Fiscal Year 2011	- $1,405,184
Fiscal Year 2012	- $1,300,000

IR-4

Mr. Kingston: Please provide a chart showing all IR-4 grants, including the amount, recipient(s) and purpose for fiscal years 2009 through 2012.

Response: The information is provided for the record.
[The information follows:]

<table>
<tr><th>Fiscal Year</th><th>Recipient</th><th>Amount</th></tr>
<tr><td>2009</td><td>IR-4 Headquarters, Rutgers University</td><td>$2,942,280</td></tr>
<tr><td colspan="3">Purpose: The IR-4 Headquarters coordinates activities nationally and internationally with other agencies and organizations including the U.S. Environmental Protection Agency, USDA's Agricultural Research Service, Canada's Pest Management Centre of Agriculture, Agri-Food Canada, and the crop protection industry. Projects are evaluated by state and federal scientists, commodity group representatives, growers and other experts. Headquarters staff manages pesticide registration protocols and prepares petitions for submission to the U.S. Environmental Protection Agency.</td></tr>
<tr><td rowspan="4">2009</td><td>NC Region, Michigan State University</td><td>$1,723,001</td></tr>
<tr><td>NE Region, Cornell University</td><td>$1,570,307</td></tr>
<tr><td>Southern Region, University of Florida</td><td>$2,056,274</td></tr>
<tr><td>Western Region, University of California</td><td>$2,935,588</td></tr>
<tr><td colspan="3">Purpose: The IR-4 Regional Centers identify field, laboratory, and quality assurance experts to generate data needed for pesticide registrations. Regional Centers analyze residue samples from field trials as well as from other sources.</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="5">2010</td><td>IR-4 Headquarters, Rutgers University</td><td>$3,386,795</td></tr>
<tr><td>NC Region, Michigan State University</td><td>$1,947,011</td></tr>
<tr><td>NE Region, Cornell University</td><td>$1,072,631</td></tr>
<tr><td>Southern Region, University of Florida</td><td>$1,971,259</td></tr>
<tr><td>Western Region, University of California</td><td>$2,976,865</td></tr>
</table>

Fiscal Year	Recipient	Amount
2011	IR-4 Headquarters, Rutgers University	$3,370,852
	NC Region, Michigan State University	$1,861,375
	NE Region, Cornell University	$947,845
	Southern Region, University of Florida	$2,128,905
	Western Region, University of California	$3,025,875
2012	IR-4 Headquarters, Rutgers University	$2,980,439
	NC Region, Michigan State University	$1,906,411
	NE Region, Cornell University	$939,745
	Southern Region, University of Florida	$2,260,095
	Western Region, University of California	$3,063,635

Food and Agriculture Defense Initiative

Mr. Kingston: Please provide a chart showing all Food and Agriculture Defense Initiative grants, including the amount, recipient(s) and purpose for fiscal years 2009 through 2012.

Response: The Food and Agriculture Defense Initiative supports integrated activities (research, education, and/or extension) in support of national networks that provide for the defense of American agriculture. The FY 2012 cooperative agreements have not been determined. The details for FY 2009 through FY 2011 are provided for the record:

[The information follows:]

Institution Name	**Fiscal Year 2009 Award Amount ($)**	**Fiscal Year 2010 Award Amount ($)**	**Fiscal Year 2011 Award Amount ($)**	**Purpose or Title**
University Arizona	298,000	298,000	182,000	National Animal Health Laboratory Network: Arizona
University of California	830,350	853,182	500,000	Western Regional Center in the National Plant Diagnostic Network
University of California	308,000	298,000	182,000	National Animal Health Laboratory Network: California
Colorado State University	298,000	298,000	182,000	National Animal Health Laboratory Network: Colorado
Florida Department of	298,000	298,000	182,000	Homeland Security -

Institution Name	**Fiscal Year 2009 Award Amount ($)**	**Fiscal Year 2010 Award Amount ($)**	**Fiscal Year 2011 Award Amount ($)**	**Purpose or Title**
Agriculture				Agriculture
University of Florida	830,350	975,899	500,000	The Southern Plant Diagnostic Network
University of Georgia	298,000	298,000	182,000	Georgia National Animal Health Laboratory Network Program
Iowa State University	298,000	298,000	182,000	National Animal Health Laboratory Network Activities for Iowa State University
Purdue University	248,250	250,000	175,000	National Plant Database Network National Database/National Network Diagnostic Center
Purdue University	50,000	50,000	31,000	National Animal Health Laboratory Network for the Food and Agriculture Defense Initiative
Purdue University	485,000	499,000	304,575	Extension Disaster Education Network Homeland Security Initiative: Strengthening EDEN's Role in Homeland Security, Food and Ag Defense, and All-Hazard Education
Kansas State University	830,350	853,182	500,000	Grant Plains Diagnostic Network
Kansas State University	50,000	50,000	31,000	National Animal Health Laboratory Network: Kansas
Murray State University	50,000	50,000	31,000	National Animal Health Laboratory Network: Kentucky
Louisiana State	298,000	298,000	182,000	National Animal Health Laboratory

Institution Name	**Fiscal Year 2009 Award Amount ($)**	**Fiscal Year 2010 Award Amount ($)**	**Fiscal Year 2011 Award Amount ($)**	**Purpose or Title**
University				Network: Louisiana
Michigan State University	830,350	965,962	575,425	North Central Plant Diagnostic Network
Michigan State University	50,000	50,000	31,000	National Animal Health Laboratory Network: Michigan
University of Minnesota	50,000	50,000	31,000	National Animal Health Laboratory Network: Minnesota
Mississippi State University	50,000	50,000	31,000	National Animal Health Laboratory Network: Mississippi
North Carolina Department of Agriculture and Consumer Services	298,000	298,000	182,000	National Animal Health Laboratory Network: North Carolina
University of Nebraska	50,000	50,000	31,000	Further Integration of the Nebraska Veterinary Diagnostic Center into the National Animal Health Laboratory Network
New Jersey Department of Agriculture	50,000	50,000	31,000	National Animal Health Laboratory Network
New Mexico State University	50,000	50,000	31,000	New Mexico Agriculture Livestock Incident Response Team Training Program to Enhance Staff Training for Foreign and Emerging Animal Diseases
Cornell University	298,000	298,000	182,000	National Animal Health Laboratory Network: New York
Cornell	980,350	1,079,969	500,000	Northeast Plant

Institution Name	**Fiscal Year 2009 Award Amount ($)**	**Fiscal Year 2010 Award Amount ($)**	**Fiscal Year 2011 Award Amount ($)**	**Purpose or Title**
University				Diagnostic Network
The Ohio Department of Agriculture	50,000	50,000	31,000	National Animal Health Laboratory Network supplemental agreement for IT and equipment support
Oregon State University	50,000	50,000	31,000	National Animal Health Laboratory Network: Oregon
Pennsylvania Department of Agriculture	50,000	50,000	31,000	National Animal Health Laboratory Network: Pennsylvania
South Dakota State University	50,000	50,000	31,000	National Animal Health Laboratory Network: South Dakota)
State of Tennessee Department of Agriculture	50,000	50,000	31,000	National Animal Health Laboratory Network:
Texas AgriLife Research	298,000	298,000	182,000	National Animal Health Laboratory Network for the Food and Agriculture Defense Initiative
Utah State University	50,000	50,000	31,000	National Animal Health Laboratory Network: Utah
Washington State University	308,000	308,000	182,000	Washington Animal Disease Diagnostic Laboratory Participation as a Core Laboratory in the National Animal Health Laboratory Network
University of Wisconsin	298,000	298,000	182,000	National Animal Health Laboratory Network
University of Wyoming	50,000	50,000	31,000	National Animal Health Laboratory Network Testing

Institution Name	**Fiscal Year 2009 Award Amount ($)**	**Fiscal Year 2010 Award Amount ($)**	**Fiscal Year 2011 Award Amount ($)**	**Purpose or Title**
				University of Wyoming, Wyoming State Veterinary Laboratory
TOTAL	9,431,000	9,863,194	5,735,000	

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS- STEM

Mr. Kingston: Please provide a chart showing all STEM grants, including the amount, recipient(s) and purpose for fiscal years 2009 through 2012.

Response: The information is provided for the record.

[The information follows:]

1. New Era Technology Grants Program

FY 2009

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Improve the quality of bioenergy education at Indian Hills Community College through professional development for instructors and creating opportunities for students to gain valuable experiential learning through internships and applied research with bioenergy companies	Indian Hills Community College	$98,839
The purpose of the project is to develop a pathway system in pulp and paper education that includes a preparatory certificate program to help an audience of underprepared rural residents in Maine and New England obtain the STEM and technology skills they need to be successful in KVCC's Pulp and Paper program, the only program in New England.	Kennebec Valley Community College	$116,128
Address the workforce training needs in emerging technologies through the creation of a Regional Bio-fuels Advanced Technological Training Center (RBATC) to deliver bio-fuels industry based, educational programs, hands-on skill development and industry training.	North Dakota State College of Science	$278,699

Purpose or Title	Recipient Institutions	Amount of Award
To form an academic-industrial partnership between Linn-Benton Community College and Trillium FiberFuels, Inc. that will integrate the principles of biofuel production and maintenance into the agriculture and Mechatronics curriculum; provide hands on learning opportunities to students surrounding the fabrication and troubleshooting of novel tooling for the biofuel industry; and provide research opportunities for community college and middle and high school students in the characterization of cellulosic material following pretreatment.	Linn-Benton Community College	$115,638

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
Advance technology education and training that support agriculture-based renewable energy through curricula and materials development for secondary and postsecondary institutions; including identify science, technology, engineering and math (STEM) knowledge and competency requirements needed by high school graduates entering two-year agriculture-based renewable energy programs;	Muscatine Community College	$201,996

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Goal I: Create curriculum for an AD Technician program that will provide a pathway into rural, agricultural renewable energy employment. Goal II: Deliver AD Technician programming in Northwest Washington, including students from underserved populations such as unemployed and dislocated workers, and incumbent agricultural workers. Goal III: Utilize partner network and program delivery to promote and facilitate development of anaerobic digester technology in the rural agriculture industry in Washington State. Goal IV: Disseminate an instructional model that can be replicated and adapted on a state and national level	Bellingham Technical College	$299,397
To develop curriculum and purchase laboratory equipment for a chemical technician program based on the accreditation requirements of the American Chemical Society. This project's target objectives include the following: a. Assist rural communities in northeast Iowa by ensuring that a healthy pipeline of workers exists in the coming years with skills to achieve employment in the agriculture-based renewable energy, biofuels, and food safety industries. b. Offer Iowa workers a post-secondary opportunity to obtain well-paying employment in agriculture-based renewable energy and related fields	Northeast Iowa Community College	$123,377

Purpose or Title	Recipient Institutions	Amount of Award
This proposal intends to provide education/training activities that is more easily accessible for the workforce of the pulp and paper manufacturing and agriculture-based renewable energy industries located within the Jones County Junior College service area. This project will directly impact renewable energy sources and sustainable economies by addressing operation and maintenance training needs in industry sectors that support these topic areas and are located within the college's service area that rely heavily on a skilled workforce to effectively and efficiently produce consumable products. Education and training will target incumbent workers, dislocated and underemployed individuals, and veterans throughout the rural areas of the college district.	Jones County Junior College	$124,748
This proposed project addresses the need for training students to produce and use agriculture-based renewable energy by providing an internet-based/laboratory-supplemented elective for all agriculture degrees and certificates; internship opportunities for student involvement in a biofuels applied research project on the Rend Lake College farm; and a community education component to make biofuel production and use information available to all sectors of the community.	Rend Lake College	$60,835

FY 2011

Purpose or Title	Recipient Institutions	Amount of Award
TVCC will develop an Associate of Applied Science degree in Renewable Energy with a pathway for high school students from Pine Eagle Charter School (PECS). This degree and pathway will be taught using smart classroom technology and delivered to 5 remote outreach centers.	Treasure Valley Community College	$117,438
Develop innovative programs to meet the new technological requirements of a paper manufacturing workforce that will expand the global competitiveness, and contribute toward the economic development of the distressed region, and advance the quality of applied research in this area. Students will learn new technological applications through simulated experiences or on-the-job training and have increased access through distance learning modalities.	Tri-County Technical College	$281,852
To develop an associate degree and certificate program that can be replicated across various regions of the country where bioenergy technologies have been adopted by businesses and organizations, thus having an impact on local and state economies across the country. The primary audience for this initiative will include traditional students entering postsecondary education upon high school graduation and/or non-traditional students who seek a change in career or occupation.	Agricultural Technical Institute	$281,509
Advance the training and knowledge amongst current and future worker-learners with regards renewable energy and pulp and paper manufacturing. The anticipated overall impact on improving pulp and paper manufacturing will be: Increased numbers of qualified faculty to train potential and incumbent worker students; Educational delivery options for training; Potential for technology-based training for incumbent workers; More specially trained individuals for the pulp and paper industry; Established articulated pathways and marketing to attract secondary school students	Itasca Community College	$117,420

FY 2012

The New Era Technology Grants Program was not funded for FY 2012 and no awards will be made.

2. Hispanic Serving Institutions Education Grants Program

FY 2009

Purpose or Title	Recipient Institutions	Amount of Award
Mt. SAC Agriculture Pathways Program	Mt. San Antonio College	$249,996
Career Opportunities in Food Safety	West Hills College Lemoore	$295,000
Preparing Underrepresented Students for USDA Natural Resource Careers With Multi-Disciplinary Internships	University Enterprises Corporation at CSUSB	$499,582
Integration Of Interdisciplinary Techniques: Agricultural Biotechnology (ITAB)	University of Puerto Rico in Ponce	$249,848
Linking Curriculum and Student Internships with USDA Mission Critical Occupations	University Corporation at Monterey Bay	$300,000
Research Experiences in Agricultural Biotechnology for underrepresented students at two Hispanic Serving Institutions	The University of Texas - Pan American	$315,331
English for Academic and Career Success in Agriculture: A Needs-based Curriculum	University of Puerto Rico Mayaguez	$249,753
Experiential Learning and Career Development in Agricultural and Natural Resources	Texas A&M University-Kingsville	$295,000
Partners in Agricultural Leadership	Reedley College	$300,000
Proyecto Alimento III: Success in Food & Nutrition-Recruit, Retain and Transfer Hispanic Students from 2-yr to 4-yr Nutrition Degree Program	Alamo Community College District - St. Philip`s College	$299,983
Re-Shaping a Curriculum: Environmental Science in the Urban Environment	New Jersey City University	$287,707
Expanding Opportunities in the Hospitality/Food Industry for Underrepresented Students	Houston Community College	$298,538
Undergraduate Research Experiences in Microbiology and Developmental Entomology	St. Edward's University	$295,000
Research Internship for Hispanic High School Students as a Tool to Recruit Students into Agricultural Professions	Texas A&M University-Kingsville	$281,737

Purpose or Title	Recipient Institutions	Amount of Award
Comienza Sano: Familia Saludable - Latino Nutrition and Chronic Disease Prevention Project	California State University Long Beach Foundation	$296,000
Integrating Nutrition, Food Science and the Culinary Arts: Healthy Meals, Fit for Life	Central New Mexico Community College	$295,000
Establishment of a new BS Biotechnology Program	Pontifical Catholic University of Puerto Rico	$295,000
An initiative to increase research and education in sustainability engineering	The University of Texas at El Paso	$296,000
Estudiante Dietetio: Development, Implementation and Evaluation of a Spanish Dietetic Curriculum	California State Polytechnic University, Pomona	$248,043
Focusing Recruitment, Retention and Research Experiences (FRRRE) for Underrepresented Minorities in Natural Resource Management	New Mexico Highlands University	$296,000

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
Educating through field-based research and career development to increase retention of students pursuing college degrees in agriculture.	The University of Texas at San Antonio	$290,000
Biofuel Science Education for Under-Represented Students at Florida International University	Florida International University	$290,000
Developing an Experiential Learning/Mentoring and Research Program for Recruitment, Retention and Career Development Into Agriculture	Texas A&M University - Kingsville	$290,000
The TIERRA Project: Targeted Investigation of Earth Resources Related to Agriculture	Northeastern Illinois University	$248,000
Santa Ana College`s Partnerships for Transfer Success in USDA-related Majors	Rancho Santiago Community College District - Santa Ana Col	$290,000
Supporting Instruction in Soil and Plant Sciences: Filling the Gaps in Key STEM Understanding for Undergraduate Students	New Mexico State University	$290,000
Providing Research Opportunities for Minority Populations in Texas Programs	Texas A&M University-Corpus Christi	$247,000
Advancing Students' Competencies in the Health Sciences through a Breastfeeding Education Program	California State University, Northridge	$285,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Development of a new generation of environmental scientists through an undergraduate program of inquiry-based instruction, independent	California State University San Marcos	$247,000
Strengthening the pipeline of undergraduate students into the Master's program in Food Science and Technology at UPRM	University of Puerto Rico Mayaguez	$290,000
Water Science and Natural Resource Management for California`s Central Valley	West Hills Community College District	$248,000
CREAR: Collaboration and Retention in Environmental and Agricultural Research	Northeastern Illinois University	$290,000
Intellectual Capacity Development in Food and Agricultural Sciences through Modernization of Research Capacity	California State University, Fresno	$245,000
The Innovative Means of Promoting Agrisc. Career Tracks (IMPACT) provides experiential learning, faculty development and lab infrastructure to HCC	Houston Community College System	$244,000
Café Con Leche	Houston Community College	$445,000
Supporting Agriculture in Science and Education	New Mexico Highlands University	$290,000
Expanding Opportunities for Underrepresented Students for Agriculture Careers through Recruitment, Experiential Learning, and Agricultural Literacy	California State University, Stanislaus	$247,000
Opening Doors in Agricultural Education: Recruitment, Preparation, and Careers	California State University, Fresno	$290,000
Dietitians Today and Tomorrow/Dietistas Hoy y Manana	The University of Texas at San Antonio	$290,000
Soil and Crop Science Transfer Program	Otero Junior College	$290,000
Strengthening and Expanding a Public Health/Community Nutrition Focus in the CSULA Nutritional Science Curriculum	California State University, Los Angeles	$290,000
Enhancing Career Awareness and Develop Through Experiential Learning.	Eastern New Mexico University	$280,000
SABOR Culinary Arts Program: Better Nutrition Education and Jobs	Laredo Community College	$291,568
Collaborative for Sustainable Foodshed Development	Regents of the University of New Mexico	$290,000
Education, Experience and Employment for Underrepresented Students in Natural Resources	St. Edward`s University, Inc.	$315,000

Purpose or Title	Recipient Institutions	Amount of Award
Mentoring Underrepresented Students through Sustainable Agricultural and Biological Research	Sul Ross State University	$290,000
Improving Student Success Through Professional Development Opportunities	Texas A&M University-Kingsville	$290,000
Undergraduate- Scholarly Education And Research Contact for Hispanics (U-SEARCH)	Texas A&M University-Corpus Christi	$290,000
Rocks to Wine: Connecting Urban Education and Research with the Texas Wine Industry	University of Houston-Downtown	$247,000
Building Expertise on Energy Sustainability (BEES) - An Integrative Model to Increase Research and Education in Renewable Energy Systems	The University of Texas at El Paso	$290,000
Building Bridges Across Riverside through Nano-Water Research	The Regents of the University of California	$290,000

FY 2011

Purpose or Title	Recipient Institutions	Amount of Award
Watershed Management Experiential Learning for USDA Careers	University Enterprises Corporation at CSUSB	$500,695
Preparing Students for Career Paths with the USDA Forest Service by Linking Student Success with Experiential Learning Opportunities	New Mexico State University	$800,000
STEP UP to USDA Career Success: Science, Technology and Environmental Programs for Undergraduate Preparation to USDA Career Success	Texas A&M University-Kingsville	$800,000
Food Safety and Agroterrorism Training: Educating Our Future Workforce	Texas State University-San Marcos	$800,000
Florida-Caribbean Consortium for Agriculture Education and Hispanic Workforce Development	Florida International University	$800,000
Undergraduate Training and Mentoring in the Agricultural Sciences	The Regents of the University of California	$289,000
Improved Laboratory Facilities for the UPR-RP Nutrition and Dietetics Program	University of Puerto Rico-Rio Piedras Campus	$289,000
UPR-Mayaguez Center for Education and Training in Agricultural and Related Sciences (CETARS)	University of Puerto Rico Mayaguez	$800,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Establishment of the Global Trade and Logistics Bachelor of Applied Science Program with an emphasis on Food and Agriculture products.	Broward College	$287,000
Sowing the Seeds for the Next Generation of Plant Breeders	California State Polytechnic University, Pomona	$284,000
Urban Agriculture Community-based Research Experience (U-ACRE)	California State University, Fullerton	$277,500
Increasing Workforce Diversity: Training Hispanic Students to Address Childhood Obesity and Nutrition	California State University, Fullerton	$277,500
Agriculture Out of Bounds	Houston Community College	$245,000
South Mountain Community College Advancing Undergraduate Bioscience Engagement Track	South Mountain Community College	$289,000
The Cultivar Project: Connecting Underrepresented Latinos To Integrate Values and Academic Resources	Texas A&M University Corpus Christi	$246,722
BGREEN - Building a Regional Energy and Educational Network	The University of Texas at El Paso	$800,000
Bridging the Gap between HSI Community Colleges, University of La Verne, and Agricultural Science Graduate Schools	University of La Verne	$244,000
Experiential Learning for Hispanic Students of South Texas: Biological Control of Giant Reed, an Invasive, Water-Consuming Weed.	University of Texas-Pan American	$245,000
Focus On the Future: Cultivating a Multicultural 21st Century Workforce in the U.S. Agricultural Sector	California State Polytechnic University, Pomona	$289,000
PUENTES: Pathway of Undergraduate Education for Nutrition Training Experience and Success	Dominican University	$229,000

FY 2012

The awards for the Hispanic Serving Institutions Education Grants Program for FY 2012 have not been finalized.

3. Higher Education Challenge Grants Program

FY 2009

Purpose or Title	Recipient Institutions	Amount of Award
Educational Effectiveness of Utilizing Second Life (SL) in Teaching Graduate-level Agricultural Crisis Communications	Texas AgriLife Research	$460,338
Cultivating Global Leaders in Agriculture: Enhancing Participation in Undergraduate Experiential Learning Opportunities for Minorities	Texas AgriLife Research	$137,845
Teaching Locally, Engaging Globally: Enhancing the Undergraduate Curriculum	University of Florida	$459,788
Immediate & Long-term Strategies for Bringing Financial Planning to Underserved Populations thru Experiential Learning & Student Recruitment	University of Georgia	$280,673
Empowering Faculty to Deliver Graduate Distance Education Courses	The University of Georgia	$138,105
Biobased Energy Education Materials Exchange System (BEEMS)	The Ohio State University	$459,885
Educating Future Dairy Industry Leaders and Professionals with a Multi-State, Multi-University Consortium	New Mexico State University	$455,489
Ambassadors for Conservation Education (ACE) Program	The University of Georgia	$364,096
Restoring Community Foodsheds	Virginia Polytechnic Institute & State University	$328,957
Improving training in rural mental health care through the innovative use of technology and the application of collaborative care models	University of Nebraska, Lincoln	$455,062
Enhancing Cultural Competence; Recruiting and Training Dietetic Students to Work with the Hispanic Population	Metropolitan State College of Denver	$131,699
Virtual Reach: A Pilot Collaborative for Head Start Employees Seeking the Baccalaureate Degree	Stephen F. Austin State University	$330,011
Equine Veterinary Diagnostic Skills Course	Iowa State University	$138,105
Biobased Products and Bioenergy Multi-University Graduate Program	Kansas State University	$458,775
Applied Masters Degree in Food Systems	University of Vermont and State Agricultural College	$138,104

Purpose or Title	Recipient Institutions	Amount of Award
International Comparative Rural Policy Program	The Curators of the University of Missouri	$321,968
Virtual learning forests: developing collaborative opportunities in virtual world environments for undergraduate natural resource students	University of Florida	$138,105
Best Buying Practices	Michigan State University	$137,819

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
Educating a New Generation of Agricultural Specialists: Improving Access to Healthy Food and Supporting Healthy Choices	The University of Georgia	$139,757
Supplementing Food Animal Veterinary Medical Education with iPod Applications, Podcasting and Problem Based Learning	Michigan State University	$287,574
Sustainable agriculture and food safety: Helping future agricultural professionals learn to solve complicated multidisciplinary problems	Iowa State University	$466,028
Food Systems Veterinary Medicine for the 21st Century	Iowa State University of Science and Technology	$308,667
Development of Teaching Modules for Controlled Environment Plant Production Engineering/Technology Courses	The Ohio State University	$454,473
Training Leaders in Climate Change and Natural Resources through Experiential and Field-Based Learning	The University of Montana	$140,165
Creating Virtual Nursery Trips to Improve On-Campus and Distance Education in Nursery Production	Auburn University	$307,356
A partnership model for recruiting nontraditional and underrepresented high school students into sustainability degree programs	Regents of the University of California	$464,098
Develop of an Integrated Curriculum for Animal Bioethics: Teaching farm animal welfare, agricultural environ. ethics, and rural issues	The Ohio State University	$433,697
Honors in Agriculture	South Dakota State University	$138,629
Repositioning Rangeland Education for a Changing World	University of Idaho	$461,485

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Enhancing Science Capacity in Introductory Animal, Plant, and Food Sciences Courses	Purdue University	$466,074
Farm and Forest to Fuel: An Integrative and Experiential Approach to Bioenergy, Biofuels, and Bioproducts Education	SUNY College of Environmental Science and Forestry	$223,715
Enhancing Students` Small Business Knowledge & Entrepreneurial Skills from a Global Perspective: Collaborative Curriculum Design/Assessment	The University of North Carolina at Greensboro	$466,052
A Collaborative Mind-Mapping Solution to the Obesity Challenge	University of Arizona	$455,091
Incorporating Agriculture into the Elementary School Curriculum While Enhancing Undergraduate Education in Agriculture	University of Nevada Reno	$100,473

FY 2011

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Case study approaches for improving learning and decision-making in food safety and microbiology	University of Connecticut	$139,917
Building research capacity and 21st century skills among second-year students in the agricultural sciences: A planning proposal	Virginia Polytechnic Institute and State University	$28,033
Enhancing Foundational STEM Instruction and Recruitment of Students to Agricultural Science Careers	The Regents of University of California	$140,070
Soil, Land Use and Climate Change: A new Baccalaureate concentration	Colorado State University	$139,694
A Childhood Obesity and Nutrition Curriculum for a Diverse and Changing Population	California State University, Fullerton	$280,343
Advancing Food Allergy Education for Hospitality Management and/or Dietetics Students Using Storytelling	Kansas State University	$140,168
Comprehensive Beef Education Strategic Planning Conference	University of Nebraska-Lincoln	$28,033
Developing Fermentation: Enhancing Agriculture through Value Addition	Appalachian State University	$140,090
Teaching and Learning in the Animal Sciences A National Effort to Challenge Assumptions and ESTABLISH New Foundations for the 21st Century	The Board of Regents of the University of Wisconsin System	$140,153

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Development and implementation of a National Center of Excellence in Dairy Production Medicine Education for Veterinarians	Regents of the University of Minnesota	$700,808
BRIDGE for the Future: Building Research Interest and Developing Global Engagement in USDA-NIFA Priority Areas	University of Tennessee	$267,379
In-Field Biodiscovery Framework -- a Catalyst for Science Education and Validation of Traditional Knowledge	North Carolina State University	$280,335
Chicago South Side Urban Agriculture Initiative	Chicago State University	$140,171
Preparing our Graduate Students to Feed the Future: A New Dual-title Degree Program in International Agriculture and Development (INTAD)	The Pennsylvania State University	$140,171
Student Understanding of Price Risk Management through Experiential Learning via Distance Education Delivery	The Curators of the University of Missouri	$261,280
Engaging the New Biology: integrating quantitative genetics and genomics in animal breeding graduate learning	Virginia Polytechnic Institute and State University	$700,142
Innovative STEM instructional techniques to increase the number and diversity of students in food safety related majors	South Dakota State University	$280,341
An Undergraduate Research Experience: Using Technology to Monitor Japanese Beetles, Related to Climate Change, Across New York State	Research Foundation of SUNY	$95,068
Food Safety in Agritourism	Tennessee Technological University	$140,009
The Power of Thinking Like a Scientist Applied to World Hunger	Iowa State University of Science and Technology	$140,165
A Modeling Approach to Unifying Concepts Taught in a Professional MS Agronomy Curriculum	Iowa State University of Science and Technology	$140,171
Making Climate Change a Functioning Thread in Baccalaureate Curriculum: Initiating a Transformation in Fiber, Textiles & Clothing Education	Kansas State University	$27,954
Teaching Locally, Engaging Globally: Increasing Undergraduates` Knowledge of International Dimensions	University of Florida Board of Trustees	$700,855

Purpose or Title	Recipient Institutions	Amount of Award
Transforming food marketing education: Modules to integrate social justice education and research training across undergraduate curricula	Saint Joseph`s University	$128,054

FY 2012

The awards for the Higher Education Challenge Grants Program for FY 2012 have not been finalized.

4. Secondary and Two-Year Postsecondary Agriculture Education Challenge Grants Program (pre-college and community/junior college track)

FY 2009

Purpose or Title	Recipient Institutions	Amount of Award
Partnerships to Enhance Rangeland Education and Career Interest: Charting a Path for Secondary Agricultural Programs in the West	University of Idaho	$46,954
Integrating Food Safety Investigations into Science Curricula for Secondary Education	University of Delaware	$32,868
"Motors on the Move"	Dayton High School	$46,908
MATRIX for the Future: Premier Agriscience Education Academy	Auburn University	$46,954
Improving financial planning and management instruction in secondary agricultural education	Ohio State University	$46,954
What`s Growin` On?	California Foundation for Agriculture in the Classroom	$14,086
Promoting Awareness of Career Opportunities in Agricultural and Food Sciences	The University of Georgia	$32,868
Exploring Agriscience and Agribusiness through Integrated Science and Career and Technical Education	Utah State University	$25,752
Agriculture in the Classroom Goes High-Tech - Facilitating the use of AITC curriculums by making them SmartBoard ready and web accessible	Cornell Cooperative Extension of Oneida County	$28,898
Developing Online Aquaculture Curricula	Auburn University	$46,954

Purpose or Title	Recipient Institutions	Amount of Award
Agriscience Career Exploration in Plant Tissue Culture, Plant Pathology and Entomology	Orange County Public Schools	$46,954
Biodiesel Fuel Pilot Project	Loris High School	$20,760
Veterinary Education Assistant Pathway	Omak High School	$46,836
Web Based Learning Modules to Enhance Science Learning in Agriscience Classrooms	Purdue University	$32,868
Delaware State University Summer AgriScience Institute	Delaware State University	$46,954
North Harford High Natural Resources and Agricultural Sciences Program	Harford County Public Schools	$30,586
Up with AG! Underrepresented Populations Working Toward Higher Education for Agriscience Careers	Walton Career Academy	$32,868
Ag Careers for Urban Students	Pierce College	$46,954
Student produced monthly agriculture television news magazine and newspaper	Drummond High School	$29,824
Brush Poppers AGTECH Camp	Texas State Technical College West Texas	$21,484
Strengthening Education in Food & Agricultural Sciences in the Rural Shawnee Region	Shawnee Community College	$46,948
Swine Production Manager Certification and Associate Degree Delivered via Distance Education	Iowa State University of Science and Technology	$46,942
Horticulture Education Connection Program	Niagara County Community College	$32,639
Theory to Practice: Developing Junior College Agriculture Faculty to Teach Agricultural Leadership	Oklahoma State University	$46,941

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
AARP (Aquaculture Applied Research Projects): High School Aquaculture Research Projects	Alma Bryant High School	$33,540
Multimediating: An instructional design for use by teachers to incorporate mathematics and science into high school agricultural curriculum	Sam Houston State University	$33,239
Marion Local Schools and Wright State Lake Campus Collaboration to Reinstate Ag Studies Associate/Bachelor Degree Program in Ag Science	Marion Local High School	$47,914

Purpose or Title	Recipient Institutions	Amount of Award
Improving Secondary Agriculture and Science Students Understanding of Watersheds and Water Quality Issues	Iowa State University of Science and Technology	$33,539
Creating a Pipeline for Underrepresented Students in Atlanta Area High School to enter careers in Science Technology Engineering and Mathematics	The University of Georgia Research Foundation, Inc.	$33,172
Linking New Careers in Agriculture to Higher Education	Norfolk County Agricultural High School	$47,914
Agricultural Economics Curriculum Development and Training for Oklahoma High School Educators	Oklahoma State University	$33,535
AGsploration - The Science of Maryland Agriculture	University of Maryland	$33,367
Visual Communication on the Road in Arkansas: Video and Photo Creative Projects to Promote Agriculture	University of Arkansas	$33,539
The Park High School Technology Project	Park High School	$31,592
Sustainable Communities Through Sustainable Agriculture	Sanilac Intermediate School District	$33,540
Oklahoma Ag in the Classroom Professional Development: Strengthening ties between classroom teachers & the agriculture community in Oklahoma	Oklahoma State University	$47,914
Development of Animal Agriculture K-12 Lesson Plans	Project Food, Land, & People	$33,540
Enhanced High School Education in Seafood Science and Technology to Fulfill Skilled Employee Requirements of the Sector	University of Alaska Fairbanks	$44,485
The Greenhouse Factor	MT Washington Valley School to Career Partnership	$47,914
Bridging the Digital Divide in Agriculture Careers	University of Arizona	$33,540
STEM Curriculum	California Foundation for Agriculture in the Classroom	$33,539
BioProducts Outreach and STEM Engagement	The Ohio State University	$47,573
Increasing Content Knowledge of High School Educators through a Continuing Education Course in Food Science	Purdue University	$33,079
Training STEM Educators to Teach Applied and Advanced Topics in Animal Genetics	Purdue University	$47,892
Curriculum Development for a Certificate Program in Sustainable Agriculture	Lorain County Community College	$47,241

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Strengthening the CCBC Horticulture Program	The Community College of Baltimore County(CCBC)	$21,851
Viticulture Part II - Implementation	Treasure Valley Community College	$33,539
Increase agricultural education completion rates through student management and expanded career opportunities for SPECA programs	College of Central Florida	$33,520

FY 2011

Purpose or Title	**Recipient Institutions**	**Amount of Award**
The Milwaukee Aquaponics Expertise Development Initiative (MAEDI)	Milwaukee Teacher Education Center (MTEC)	$22,970
Food Safety STEM Curriculum Development for Grades 6-8	California Foundation for Agriculture in the Classroom	$30,295
Preparing Hawaii youth to succeed in sustainable agriculture	University of Hawaii	$136,547
Improving Food Safety and Security Instruction in Secondary Agricultural Education	Ohio State University	$46,080
Taking AME (Aquaculture and Marine Education): Preparing Southeast Alaska for careers in aquaculture and marine science	Sitka Sound Science Center	$136,540
Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom (SPECA) Challenge Grant Program	Worcester Technical High School	$136,445
Biomass Powered Maple Cooperative	Vernon-Verona-Sherrill Central School	$45,516
K to 12 Online Teaching Module: Lessons & Professional Development for Maine Educators to Improve Student Learning	Maine Agriculture in the Classroom Association	$22,758
Enhancing High School Students Career Awareness and Development through an Experiential Learning Summer Program	Eastern New Mexico University	$22,758
School Gardens as a Springboard for Science Innovation (Springboard Project)	The Kohala Center, Inc.	$136,268
Integration of Precision Agriculture Activities and Demonstrations into Secondary Curriculum Using a Mobile Lab Model	Ellsworth Community College	$45,324

Purpose or Title	Recipient Institutions	Amount of Award
Increasing Postsecondary and Career Opportunities for Secondary Agriculture Students in West Virginia	Collaborative for the 21st Century Appalachia	$42,565
Building a Sustainable Plants and Food Production Program	Joliet Junior College	$45,516
Promoting Education of Agricultural Sustainability in Northwest Montana (PEAS)	Flathead Valley Community College	$13,233
Planning grant proposal to develop an Associate Degree in Agricultural Sciences	Kennebec Valley Community College	$22,758

FY 2012

The awards for the Secondary and Two-Year Postsecondary Agriculture Education Challenge Grants Program (pre-college and community/junior college track) for FY 2012 have not been finalized.

5. AFRI NIFA Fellowships Grant Program

FY 2009

The program did not exist in 2009.

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
The goal of this project is to improve the safety of food products supplied to U.S. markets from international sources such as China.	Purdue University	$75,000
This project focuses on 1) understanding the interaction between pathogen and host, 2) elucidating genetic components that contribute to virulence and diversity, and 3) disseminating this knowledge in a timely and accessible manner to the appropriate stakeholders (i.e., cucumber growers and producers). Completion of these objectives will result in resources that will contribute to development of an effective disease management system for Ps. cubensis as well as establish an effective outreach and education program for our stakeholders.	Michigan State University	$75,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
My supporting objectives are to (1) identify and characterize transcriptionally active RKN genes with sequence similarity to plant genes encoding peptide hormones, (2) develop and implement bioassays designed to functionally characterize RKN-encoded plant peptide hormone mimics, (3) define the roles the RKN derived peptides play in the parasitism of host plants and (4) elucidate the molecular mechanisms by which nematode peptides interact with host tissue.	North Carolina State University	$75,000
We will determine how AvrBsT directly affects the plant innate immune system by determining the key cellular components that AvrBsT is targeting, and how the plant cell responds to such perturbation. AvrBsT is a member of a specific family of T3SS effectors shared widely by plant pathogens (e.g. Ralstonia and Pseudomonas) and animal pathogens (e.g., Yersinia and Salmonella).	Board of Trustees of the Leland Stanford Junior University	$75,000
Three objectives are proposed to understand the influence of synergistic behavior on cellulase binding and hydrolysis: 1) Resolving cooperative and competitive binding during active hydrolysis; 2) Resolving the role of a processive endocellulase in binary and ternary mixtures during hydrolysis; 3) Integrating binding kinetic data with sugar production data to quantify the interaction between enzymatic activity and binding in synergistic mixtures.	Cornell University	$75,000
Our studies aim to determine the roles of the signals involved in regulating effector transport through the T3SSs in V. parahaemolyticus. Through this work we will gain insight into the nature of the interactions between effectors and the T3SS, which may offer unique targets for therapeutic intervention both in Vibrio and other organisms harboring a T3SS.	Washington State University	$75,000
This research will focus on the largest global retailer, the Walmart Corporation, in order to explore how these changes in procurement patterns affect producers, including an assessment of what outside organizations step in to provide resources and training.	The Pennsylvania State University	$75,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
This project expands upon these important initial findings by examining new strains of CMV infecting different host plants, determining how CMV changes host chemistry and, through these changes, aphid behavior, and how infection of a host plant with a virus indirectly affects other organisms such as insect predators that attack aphids and other herbivores.	The Pennsylvania State University	$75,000
We will investigate target genes identified by BLAST searches and previous microarray work for their role in transformation and recombination through molecular and biological assays.	The Regents of the University of California	$75,000
This project aims to study how the GH3 proteins recognize their hormone and amino acid substrates and how GH3 sequence leads to the hormone-amino acid preference.	Washington University	$75,000
The aim is to address basic research questions regarding the biology of strigolactone perception and reveal key molecular determinants that permit crop exploitation by parasitic plants.	University of Washington	$75,000
This work aims to enhance water quality in regions impacted by agricultural drainage by improving the performance and understanding of denitrification bioreactors, one of the newest technologies for practical edge-of-field nitrate removal.	Iowa State University of Science and Technology	$40,000
Role of The Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) Nucleocapsid Protein PxxPxxP SH3 Signaling Motifs in PRRS Pathogenesis	Virginia Polytechnic Institute and State University	$130,000
Modeling Transmission Dynamics of Mycobacterium avium subsp. paratuberculosis to Improve Control Strategies on Commercial U.S. Dairy Farms	Cornell University	$130,000
In Utero Infection with Bovine Viral Diarrhea Virus Impairs Fetal Bone Development	Colorado State University	$130,000
Structure and Function of the European Corn Borer Sex Pheromone Receptors	The University of Montana	$130,000
Simple environmental treatments may improve cactus moth sterile insect technique (SIT) by enhancing performance and longevity	University of Florida	$130,000
Role of Phloem Loading on Growth Rates in Poplar	Cornell University	$130,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Can Reduced-Input Farming Restore Biocontrol Communities Degraded by Climate Change	Washington State University	$130,000
Household Inventory Dynamics and the Economics of Diet Based Disease	Washington State University	$130,000
Plant-based detection of food safety pathogens	Colorado State University	$130,000
Fusion of amino acid metabolisms between pest aphid species and their obligate bacterial endosymbionts	Yale University	$130,000
Roles of Unique Subsets of the Intestinal Intra Epithelial Lymphocytes (IEL) in the Development of Food-Borne Allergy	Cornell University	$130,000
Identification of routes of microbial contamination on imported fresh fruits and vegetables: A research and extension project in Mexico	Emory University	$130,000
RNA structure-mediated regulation of cap-independent translation by plant viruses	Iowa State University of Science and Technology	$130,000
Targeting branched chain fatty acid synthesis to control Listeria contamination in food	University of Michigan	$130,000
A Systems Genetics Approach to Identify Epigenetic Variants Associated with Skeletal Muscle Nutrient Content	Iowa State University of Science and Technology	$130,000
Role of Melatonin during Mid-Gestation on Fetal Growth in Sheep	North Dakota State University	$130,000
Molecular mechanisms of resistance to Bacillus thuringiensis Cry3Bb1 toxin in Diabrotica virgifera virgifera (western corn rootworm)	Boyce Thompson Institute for Plant Research	$130,000
A comprehensive genomic approach to develop a diagnostic for heat-resistant spore formers	Cornell University	$130,000
Discovering key regulators of algal lipid synthesis using high-throughput characterization of mutants carrying unique DNA bar codes	Carnegie Institution of Washington	$130,000
Engineering durable resistance to cassava bacterial blight	The Regents of the University of California, Berkeley	$130,000
Complementarity between biological control agents and evolution of species interactions in a changing climate	The Board of Regents of the University of Wisconsin System	$130,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Genetic Regulation Of Iron And Zinc Accumulation And Bioavailability In Rice Grain	Baylor College of Medicine	$130,000
A Multidimensional Imaging Platform to Analyze Crop Root System Dynamics in Response to Changing Environments	Duke University	$130,000
Adapting Forest Ecosystems on Southwestern Tribal Lands to Variations in Climate and Fire with Integrated Research, Education, and Extension	ABOR for and on behalf of Northern Arizona University	$130,000
Molecular control of cell fate acquisition during maize leaf development	The Regents of the University of California, Berkeley	$130,000
Genetic Architecture of Abiotic Stress Response in Brachypodium distachyon	The University of Texas at Austin	$130,000
Developing Fundamental Knowledge of Plant-Insect Interactions and Application of Sensor-Based Technology for Management of Stink Bugs in Cotton	Clemson University	$130,000
Genetic mapping of drought response, nutrient metabolism, and other potentially adaptive traits in the bioenergy crop switchgrass	The University of Texas at Austin	$130,000
Elucidating mechanisms that regulate lipid biosynthesis and accumulation Rhodobacter sphaeroides	The Board of Regents of the University of Wisconsin System	$130,000
Genetic Identification and Characterization of Cellulases and Cellulolytic Complexes from Fungi	Massachusetts Institute of Technology	$130,000
Improving the safety and post-harvest quality of potatoes by reducing the toxic glycoalkaloids	Colorado State University	$130,000
Influence of commercial diets and feeding regimen on production responses of Florida Pompano aqua-cultured in inland recirculating systems	Mote Marine Laboratory	$130,000
Biofuel production coupled to bioremediation of CO2 and NOx in flue gas emissions: A multidisciplinary approach to understanding novel mechanisms of nitric oxide metabolism by Heterosigma akashiwo	University of Delaware	$130,000
Mechanisms behind the enrichment of beneficial microbial taxa and functions by plants	Colorado State University	$130,000
Changes In The Plasma Proteome In Acute And Chronic Equine Laminitis	Texas A&M University	$130,000
The Role Of Type VI Secretion In Edwardsiella ictaluri Virulence	Louisiana State University and A&M College	$130,000

Purpose or Title	Recipient Institutions	Amount of Award
Extra-large G proteins (XLGs) and their role in nutrient and hormone regulation of lateral root growth	The Pennsylvania State University	$130,000
Identification and Characterization of Stress-Induced Epialleles in Maize	The Pennsylvania State University	$130,000

FY 2011

Competition for FY 2011 was joined with FY 2012; therefore awards were not made in FY 2011.

FY 2012

The awards for the AFRI NIFA Fellowships Grant Program for FY 2012 have not been finalized.

6. Alaska Native and Native Hawaiian-Serving Institutions Education Grants Program

FY 2009

Purpose or Title	Recipient Institutions	Amount of Award
Alaska Community Training, Instruction, And Vocational Education (Active)	University of Alaska Anchorage	$200,000
University Of Hawaii Agribusiness Education, Training And Incubator Project (AETI)	University of Hawaii	$1,528,630
Drumbeats: We Will Live Well	University of Alaska Fairbanks	$1,015,000
Building Fisheries Technology Program Capacity Through Outreach And Program Expansion	University of Alaska Southeast	$179,630
Animal Migration Patterns And Demographics	University of Alaska Southeast	$134,000
USDA Cooperative Agreement National Food And Agricultural Sciences Teaching, Extension, And Research Awards Program	University of Florida Board of Trustees	$10,900

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
Alaska Community Training, Instruction, And Vocational Education (ACTIVE)	University of Alaska Anchorage	$200,000
University Of Hawaii Agribusiness Education, Training And Incubator Project (AETI)	University of Hawaii	$1,531,737

Purpose or Title	Recipient Institutions	Amount of Award
Drumbeats: We Will Live Well	University of Alaska Fairbanks	$1,026,000
Building Fisheries Technology Program Capacity Through Outreach And Program Expansion	University of Alaska Southeast	$145,837
Animal Migration Patterns And Demographics	University of Alaska Southeast	$159,900
USDA Cooperative Agreement National Food And Agricultural Sciences Teaching, Extension, And Research Awards Program	University of Florida Board of Trustees	$8,526

FY 2011

Purpose OR Title	Recipient Institutions	Amount of Award
University Of Hawaii Agribusiness Education, Training And Incubation (AETI) Project	University of Hawaii	$1,531,747
Drumbeats: We Will Live Well, Year 4	University of Alaska Fairbanks	$1,160,570
Creating And Expanding Fisheries And Aquaculture Educational Pathways In Alaska Through University And Community Collaborations	University of Alaska Southeast	$198,024
Connecting Pacific Pathways Through Research, Education And Experience In The Sciences	University of Alaska Southeast	$167,147
USDA Cooperative Agreement National Food And Agricultural Sciences Teaching, Extension, And Research Awards Program	University of Florida	$8,368

FY 2012

The awards for the Alaska Native and Native Hawaiian-Serving Institutions Education Grants Program for FY 2012 have not been finalized.

7. Resident Instruction Grants Program for Institutions of Higher Education in Insular Areas

FY 2009

Purpose or Title	Recipient Institutions	Amount of Award
Phase V: Developing Resident Instruction In Food And Agricultural Related Sciences At Land Grant Institutions In The Pacific And Caribbean	University of Guam	$745,000
USDA Cooperative Agreement National Food And Agricultural Sciences Teaching, Extension, And Research Awards Program	University of Florida Board of Trustees	$100,000
Phase V: Developing Resident Instruction In Food And Agricultural Related Sciences At Land Grant Institutions In The Pacific And Caribbean	University of Guam	$15,748

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
Developing Resident Instruction And Distant Education In Food And Agricultural Related Sciences At Land Grant Institutions In The Pacific And Caribbean Island - Phase VI	University of Guam	$857,162
USDA Cooperative Agreement National Food And Agricultural Sciences Teaching, Extension, And Research Awards Program	University of Florida	$100,000

FY 2011

Purpose or Title	Recipient Institutions	Amount of Award
Phase VII- Developing Residence Instruction In Food And Agriculture Related Sciences At Land Grant Institutions In The Pacific And Caribbean	Puerto Rico Agricultural Extension Service	$858,892
USDA Cooperative Agreement National Food And Agricultural Sciences Teaching, Extension, And Research Awards Program	University of Florida	$100,000

FY 2012

The awards for the Resident Instruction Grants Program for Institutions of Higher Education in Insular Areas for FY 2012 have not been finalized.

8. Distance Education Grants Program for Institutions of Higher Education in Insular Areas

FY 2009

This program did not exist in FY2009; therefore awards not made in 2009.

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
Developing Resident Instruction And Distant Education In Food And Agricultural Related Sciences At Land Grant Institutions In The Pacific And Caribbean Island - Phase VI	University of Guam	$718,002
USDA Cooperative Agreement National Food And Agricultural Sciences Teaching, Extension, And Research Awards Program	University of Florida	$100,000

FY 2011

Purpose or Title	Recipient Institutions	Amount of Award
Phase II - Caripac Consortium Distance Education Grant For Institutions Of Higher Education In Insular Areas	University of the Virgin Islands	$592,599
Nutrition Live At Upr-Rp; Distance Education Courses Within The Nutrition And Dietetics Program	University of Puerto Rico-Rio Piedras Campus	$62,000
Improving Teaching Techniques And Agricultural Sciences Knowledge For Students In The Central Rural Region Of Puerto Rico	University of Puerto Rico at Utuado	$62,000
USDA Cooperative Agreement National Food And Agricultural Sciences Teaching, Extension, And Research Awards Program	University of Florida	$100,000

FY 2012

The awards for the Distance Education Grants Program for Institutions of Higher Education in Insular Areas for FY 2012 have not been finalized.

9. 1890 Institution Teaching, Research, and Extension Capacity Building Grants Program

FY 2009

No competition was held for FY 2009, a joint FY2009 and FY2010 was held during FY2010; therefore awards were not made in 2009.

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
Developing Sustainable Pasture Based Livestock Extension Educational Tools for Integrated Use	North Carolina Agricultural and Technical State University	282,000
Engaging Limited Resource Small Farmers and Woodland Owners to Promote Best Agroforesty Technologies in North Carolina	North Carolina Agricultural and Technical State University	193,307
Head Start: Jump Start on Healthy Lifestyle Program in Somerset County, Maryland	University of Maryland Eastern Shore	200,000
A Mobile Kitchen for Fruit and Vegetable Processing Training and Extension Initiatives for Pawpaw and Sorghum Syrup	Kentucky State University	300,000
Preparing Families for Future Health and Wealth Challenges	Southern University Agricultural Research & Extension Center	264,733
Urban AG Connections: An Integrated Model for Implementing School-Based Urban Agriculture, Nutrition Education and Farm-to-School Programs	Langston University	600,000
Gardening as a Therapy to Improve Physical and Mental Health	Lincoln University of Missouri	562,943
Water Smart: Watershed Academy for County Agents in Tennessee	Tennessee State University	188,000
Genetics to Control Parasites in Goats and Establishment of a Small Ruminant Parasitology Resource in Delaware	Delaware State University	199,628

Purpose or Title	Recipient Institutions	Amount of Award
Addressing The Needs Of High-Risk Small Flock & Niche Market Poultry Flocks By Establishing The Center For Small Flock Res. & Innovation	Delaware State University	199,886
Enhancing Capacity of Tuskegee University to Conduct Water Quality Extension Educational Programs	Tuskegee University	300,000
Building the Capacity of Program Delivery By Volunteer Youth Extension Paraprofessionals for Childhood Obesity Prevention Programs	Tuskegee University	300,000
Alternatives to conventional pesticide in disease and pest management in nursery production system	Tennessee State University	199,997
CESTA Summer Youth Development Institute: (In Search of the Next George Washington Carver)	Florida A&M University	199,425
Academy for the Academic Enhancement of High School Students in the Food and Agricultural Sciences	Southern University Agricultural Research & Extension Center	199,684
Strategies to Improve Farm and Business Efficiency Through Integrated Communications	Southern University Agricultural Research & Extension Center	185,323
Kentucky State University Center For Family Nutrition and Wellness Education	Kentucky State University	200,000
FAMU Rural Youth Entrepreneurial Project	Florida A&M University	200,000
Enhancing Production Capabilities of Socially Disadvantaged and Underserved Farmers via Low-Literacy Meat Goat Production Training Materials	Langston University	282,000
Training Farmer Educators on Goat Mortality and Butcher Waste Composting, A Regional Approach	Langston University	279,614
Management Education for Goat and Sheep Producers in a Bearish Economy	Kentucky State University	187,914
Interactive 3-D Game-Based Mobile Water Conservation Learning Lab	Alabama A & M University	299,995
High Tunnel Raspberry Production - An Alternative Enterprise for Small Growers in Virginia	Virginia State University	179,167
Entrepreneurship and Local Economic Development: An Education Program for Disadvantaged Communities	Alabama A & M University	598,515

Purpose or Title	**Recipient Institutions**	**Amount of Award**
To strengthen the critical thinking, design, problem-solving and communication skills of undergraduate biological engineering students by combining practice and feedback on communication tasks with instruction and practice in a set of computer modeling tools in workplace-style projects all of which will lead to graduates with a solid understanding of hydrology and soil and water conservation engineering and skills in efficient use of natural resources.	North Carolina A&T State University	$149,977
To recruit sufficient number of students in food science/technology program to build a viable and strong academic program at Fort Valley State University; build a strong State and nationally recognized food science/technology BS and MS programs at FVSU by upgrading instructional and laboratory facilities and resources to produce well trained competent graduates for gainful employment.	Fort Valley State University	$140,639
The purpose is to build institutional capacity to produce baccalaureate graduates capable of strengthening the Nation's workforce of food and nutrition professionals. Electronic-based learning will be used to expand pathways for students pursuing careers in food and nutrition.	Southern University	$150,000
To create a systemic mentoring program to recruit, retain, and train minority students for career opportunities in the food and agricultural sciences, for the 21st century labor market, or for graduate and professional schools. The program is designed to increase participants' awareness about the food and agricultural sector; enrich their academic experience by linking theoretical lessons from the classroom with real-world experiences; strengthen their public speaking, leadership, critical-thinking, and analytical skills; and produce better-trained professionals.	Southern University	$150,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
To develop a study abroad program offered through the School of Agriculture and Environmental Sciences (SAES); to produce graduates who are ready to contribute to a global society; and to develop an online undergraduate agribusiness degree program.	North Carolina A&T State University	$140,188
One goal of this project is to help students improve their skills in technology and scientific testing. Selected labs in the Department of Family and Consumer Sciences will be upgraded to, provide faculty training in technology use, and purchase technology software packages in order to prepare students in the food and agricultural sciences for the technology based careers they will pursue upon graduation.	North Carolina A&T State University	$300,000
The purpose of this project is to enhance the curriculum in Food and Nutritional Sciences by creating a Smart Kitchen/Food Preparation Laboratory with various teaching and learning stations in the Department of Family and Consumer Sciences at North Carolina A&T State University. Students in the program will increase their understanding of the use of technology to enhance meal preparation for optimal nutrition and disease prevention and thereby increase their ability to provide nutrition counseling, diet therapy and to develop new food products for individuals and families in their career roles as dietitians, nutritionists, educators, researchers, wellness specialists, physicians, and food scientists.	North Carolina A&T State University	$149,997

Purpose or Title	Recipient Institutions	Amount of Award
The CAPLEDER project will increase recruitment and retention of minority baccalaureate students in aquaculture and fisheries through innovative programs that emphasize career awareness, and planning among aquaculture/fisheries students. CAPLEDER will address the program priority areas (1g) sustainable agriculture and (1d) water quality. It focuses on the baccalaureate degree level and the Need Areas (1) broaden the student experience and (2) Start early - K-12 outreach.	University Of Arkansas	$149,682
The purpose of the project is to enhance the knowledge of students and community members regarding sustainable consumer choices. This project proposes to facilitate a student developed series of interdisciplinary teaching modules to target consumer knowledge and practices related to sustainable living.	Tennessee State University	$149,774
This proposal builds capacity in sustainable agriculture and enhances student preparation for the workforce. Specifically, the problem that's being addressed is limited exposure to sustainable agriculture in the current agriculture curriculum at UMES, inadequate instrumentation to support instruction in sustainable agriculture, the inadequate communication and problem-solving skills of agriculture graduates, and the need to incorporate experiential learning in the curriculum to develop undergraduate skills.	University Of Maryland Eastern Shore	$149,997

Purpose or Title	Recipient Institutions	Amount of Award
The purpose of this project is to build capacity by improving instruction delivery through the development of a fully functional and expandable mobile classroom system and integration of a student rapid response system. The project will focus mainly on the Baccalaureate degree level. This project address Program Needs Area (c) Instructional Delivery Systems by providing a system that integrates both formalized (addresses curriculum needs and is instructor led) and digital (free from physical restrictions, computer-based, participatory, and instructor controlled) mobile learning contexts while also providing a means of assessing student learning in real time.	Florida A&M University	$149,965
The primary purpose of this capacity building effort in biotechnology is to enrich and strengthen the instructional program at FAMU, CESTA in the fast growing area of biotechnology to supply trained scholars and as well as to expand knowledge, to attract and retain a diverse pool of minority students including women with competitive skills and establish better laboratory facilities.	Florida A&M University	$149,719
The major objectives of the proposed project are to establish a course in Advanced Plant Pathology with a comprehensive laboratory manual and relevant teaching tools. The course content will be tailored to impart essential skills and knowledge that help broaden students' exposure to interrelated disciplines within agriculture. The project will enable experiential learning through laboratory exercises and field trips.	Alcorn State University	$146,125

Purpose or Title	**Recipient Institutions**	**Amount of Award**
This project is a pilot program designed to enhance undergraduate teaching of modern agriculture of ten minority students through learning opportunity of: (a) research methods and new knowledge of modern agricultural sciences not offered in classroom, (b) general knowledge and professional opportunities in agricultural fields, and (c) learning soft-skills for increasing interest of minorities in agriculture. Overall, this program will produce more competitive graduates for both graduate school and career in agricultural sciences. They will be well-prepared in oral and written communication skills, critical thinking skills and skills of inquiry, and research experiences necessary for more effective contribution toward improving food and agriculture	Langston University	$149,996
The purpose of this project is to enhance and strengthen the food safety and quality related laboratories in the Department of Agriculture and Nutrition Ecology (ANE) in the CAHS at PVAMU. Specific objectives are: (1) To acquire new instructional laboratory equipment and instrumentation; (2) To increase the university's library holding in journals related to food quality and safety; and (3) To provide workshops that train students on the use of sensors and their potential in pathogen detection and automation. Students will have access to activities that will help them enhance their problem solving and critical thinking skills, and improve writing and public speaking skills. Students will have a broader knowledge base from which to draw upon and apply when faced with real world food safety issues.	Prairie View A&M University	$140,632

Purpose or Title	Recipient Institutions	Amount of Award
This grant is to provide experiential learning opportunities for all students entering the Department of Agriculture and Natural Resources. Three objectives of the grant are to develop a new course in experiential learning for second semester freshman within the department; to provide funding for undergraduate student research to further provide experiential learning; and to provide resources to allow for fieldtrips that would allow students to observe, first hand, Agriculture and Natural Resource activities in the state and region.	Delaware State University	$146,700
The purpose is to strengthen capacities and capabilities of Tuskegee University and Alabama A&M University to develop globally competent students and faculty in food, agriculture, natural resources and environmental sciences. Specific objectives are to: (1) develop a summer enrichment international scholar exchange, experiential learning and education program linkage with EARTH University, Costa Rica to broaden and enhance faculty and students' global competence in food, agriculture and natural resource management and conservation; (2) promote academic links in agriculture and natural resource management and conservation through faculty and student mobility; develop networks and relationships with EARTH University; (3) promote awareness among students about the broad range of international opportunities in food agriculture and natural resources.	Tuskegee University	$300,000

Purpose or Title	Recipient Institutions	Amount of Award
The purpose is to integrate climate change science into its curricula at SU to strengthen teaching and learning. The specific objectives are to (1) Enhance the curricula by developing a new course on how climate change impacts forest, natural resources, and ecosystems in urban environment and urban -rural interface, and how to mitigate the impacts, (2) Enhance student competence and workforce preparedness through research training, (3) Strengthen experiential learning by creating a summer program of field study trips to our partners' research sites, (4) Enhance scientific exchange and learning environment by implementing an annual symposium, (5) Foster critical thinking by establishing an Ecology Forum, (6) Enhance student professional development through attending conferences, and (7) Utilize the enhanced program to recruit from underrepresented groups. The project will enable faculty and students to gain knowledge and learn strategies to address the complexities of climate change, forestry, natural resources, and ecosystems, which will translate into better benefits of applying learned knowledge and technologies to the agricultural and forestry industries and to related businesses for increasing their competitiveness in the global market.	Southern University	$299,836

Purpose or Title	**Recipient Institutions**	**Amount of Award**
The purpose is to increase minority students' participation in international experiential learning to build global competencies and strengthen the internationalization of the university's curricula. The objectives are to: (1) Equip students with the global perspective and skills necessary for career development in food, agriculture and natural resources; (2) Provide students direct, practical experience with emerging economy enterprises; (3) Improve students' knowledge of agricultural and land policy issues in South Africa; and (4) Increase the quality of global academic programs through faculty collaborations.	Florida A&M University	$300,000
The purpose of this project is to increase enrollment of graduating high school seniors and two-year college students in the overall field of agribusiness and Agri-education sciences to meet the national demand for competent and professional, under-represented and minority agricultural occupations. It is proposed to develop market-responsive curricula, faculty teaching and mentoring enhancement programs, state-of-the-art resource centers with cutting-edge, modern technology, and recruitment and retention programs.	Alabama A&M University	$149,977
1. In the first year, a five-course curriculum that addresses a comprehensive understanding of food protection and defense will be developed. 2. In the second year, we will create a reference manual. This reference manual will reflect and support the developed curriculum in Objective 1. 3. In the third year, three faculties from other 1890 universities and agriculture extension faculty at NCA&TSU will join our team to come up with a working model for teaching food protection and defense for other 1890 universities.	North Carolina Agricultural and Technical State University	$138,755

Purpose or Title	Recipient Institutions	Amount of Award
The goals of this global campus project are to enhance the capacity of the School of Agriculture and Environmental Sciences (SAES) to produce graduates who are ready to contribute to a global society and to provide access to SAES courses throughout the globe by putting distance learning and study abroad under one umbrella.	North Carolina Agricultural and Technical State University	$140,188
The goals of the project are to upgrade selected laboratories in the Department of Family and Consumer Sciences, provide faculty training in technology use, and purchase technology software packages in order to prepare students in the food and agricultural sciences for the technology based careers they will pursue upon graduation.	North Carolina Agricultural and Technical State University	$300,000
This project intends to take advantage of the current interest in 'going green' to recruit students subtly and overtly to agriculture as it actually is. The existing lawn of Sockwell Hall, which houses the Biological Engineering Program of NCA&T, will be converted to a multipurpose permaculture laboratory to be used for course instruction and experiential learning of NCA&T students; for demonstrating the numerous environmental benefits provided by permaculture; and for recruiting agriculture majors.	North Carolina Agricultural and Technical State University	$149,999
This project focuses on increasing the availability and utilization of videoconferencing (VC) for Agriculture and Bio-Sciences faculty and students at Alcorn State University to expand global educational information.	Alcorn State University	$149,997
This project targets the need to broaden the undergraduate student experience through establishment of an undergraduate research and service-learning program in the human sciences	University Of Maryland Eastern Shore	$148,892

Purpose or Title	Recipient Institutions	Amount of Award
This proposed project addresses the need to attract more students from underrepresented groups into the food and agricultural sciences. This proposal is directed at the undergraduate level and focuses recruitment efforts at junior and senior-level, college bound high school students. The emphasis is also on teacher training, particularly for family and consumer sciences	University of Maryland Eastern Shore	$149,897
The aim of the project is two-fold, first to recruit and retain capable minority students into the environmental science degree program at Lincoln University and secondly to disseminate environmental science knowledge to a wider and younger audience by educating the educators.	Lincoln University	$140,617
This program will provide opportunities for undergraduates from regional universities and community colleges to be exposed to the area of Food Science and will thus provide the pipeline for Food Science graduate students who will contribute to the development of future leaders in the field.	Alabama A&M University	$140,851
To train the next generation of scientists and professionals, particularly African-Americans and other minorities. Specific objectives include the recruitment of students to pursue the masters of science degree and/or doctor of philosophy degree in urban forestry through funding of graduate stipends in global food security and plant bio-security.	Southern University	$293,600
This project "A geospatial teaching laboratory for student education" helps CARS to acquire a geospatial teaching laboratory and build its capacity in educating undergraduate students to gain skills in geospatial technologies.	Delaware State University	$140,978

Purpose or Title	**Recipient Institutions**	**Amount of Award**
The objectives of this project involve increasing enrollment in the Agricultural Economics Program through increasing the awareness of career opportunities in food and agriculture among high school students in the middle Georgia area through a week-long summer enrichment program.	Fort Valley State University	$149,842
To offer agricultural robotics training to ensure that students at Prairie View A&M University (PVAMU) are adequately prepared for the agricultural industry job market.	Prairie View A&M University	$276,299
This proposal is focused on development of a teaching program to elucidate the genetic processes that have limited today's crop biodiversity while exploring methods and resources to rebuild existing cultivar collections by diversification and other modern strategies of crop improvement. Specifically, we will prepare students to use up-to-date analytical tools that have allowed plant breeders to learn more about biodiversity and its implications in plant breeding.	West Virginia State University	$299,986
Project JUMPSTART is a focus on the academic/teaching/learning process, but will have implications for research/discovery and service/engagement/extension/outreach programs. Within the teaching/learning environment, students will gain insight about the significant role that each teacher and student must play in academic development.	Prairie View A&M University	$141,000
The goal of this proposal is to enhance the DSU Didactic Program in Dietetics (DPD) by accomplishing three objectives.	Delaware State University	$149,253
The PREP program's overall goal is to expand the capacity of Savannah River Environmental Sciences Field Station (SRESFS) to accommodate increased number of students and to prepare students to address the emerging environmental national concerns.	South Carolina State University	$150,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
The project aims to restructure and deliver a graduate level curriculum in Agricultural and Extension Education delivered via effective, efficient on-campus and distance methods designed to enhance opportunities for teachers and agricultural professionals.	Tennessee State University	$149,301
To establish capacity to facilitate students, trainees, and faculty learning via the Internet; expand participation via collaborative distance learning; and record progress of outreach training on participating members.	Tuskegee University	$137,573
The primary purpose of the project is to strengthen Alabama A&M University (AAMU) capabilities to attract and produce a cadre of qualified and competent minority undergraduate and graduate students to pursue careers in community planning for food systems to enhance local and global food security.	Alabama A&M University	$140,841
The goal of this project is to develop an applied course that will: (1) design and develop survey instruments for human subjects, (2) develop and implement theoretically appropriate sampling techniques, (3) apply appropriate econometric techniques to estimate the value of water quality to recreational users in natural areas, and (4) write a paper for submission to a peer reviewed journal or appropriate professional meeting.	Florida A&M University	$149,227
This project aims to strengthen the existing food science graduate curriculum at Alabama A&M University (AAMU). There is immediate need for sufficient representation of minority students in building a strong nationwide food safety research and education system, and eventually cater to the need of highly-skilled workforce generation in this field.	Alabama A&M University	$140,848

FY 2011

Purpose or Title	Recipient Institutions	Amount of Award
The proposed study is to inform undergraduate students of the heightened obesity rates and insufficient dietary intake of fruits and vegetables of young children. Undergraduate students will use the "theory to practice" approach to learn how the Reggio Philosophy can be used in an educational arena to teach preschoolers about gardening and nutritious foods.	North Carolina A&T State University	$147,401
To build the institutions capacity and recruit and retain students, especially from underrepresented groups, and to promote their professional growth in the Natural Resources emphasis area. This task will be accomplished through the facilitation of experiential learning opportunities by equipping and utilizing the LU living laboratory, and offering a field ecology course to students in the Natural Resources emphasis area in Agriculture, and increase cohort cohesion and professional development by establishing a local chapter of a professional society.	Lincoln University	$127,832
To offer the on-line masters degree in Family and Consumer Sciences with licensures available and assist college instructors. This method of providing a Masters of Sciences (MS) degree in higher education will update and expand a program that will provide nontraditional students or students working full or part time access to courses necessary to fulfill requirements for license and or obtain a Masters of Art in Teaching (MAT) degree. On-line programs fill a niche for the students who are not living on campus and for whom commuting is not a practical option.	North Carolina A&T State University	$148,428

Purpose or Title	**Recipient Institutions**	**Amount of Award**
To enhance teaching capacity and develop highly competitive students for the future workforce in sustainable agriculture and forestry. The project will develop partnerships with Louisiana State University, East Carolina University, USDA Forest Service, USDA Sustainable Agriculture Research and Education Programs, USDA Natural Resource Conservation Service, and Louisiana Department of Environmental Quality.	Southern University Baton Rouge, Louisiana	$300,000
This integrated initiative addresses the shortfall in the number of graduates in food, renewable energy, and environmental specialties in the agricultural, food, and renewable natural resources sectors of the U.S. economy. A new baccalaureate degree program in Agriculture, Food, and Environment will be developed at Kentucky State University to address this need with four individual Options in Agricultural, Food, Environmental, and Aquaculture Systems as well as hands on research opportunities in these areas. This new degree program will build the teaching capacity at KSU, enhance recruitment of students, increase enrollment, develop courses that will appeal to and train students in these growth areas of the economy.	Kentucky State University	$598,360

Purpose or Title	**Recipient Institutions**	**Amount of Award**
To establish a Professional Science Master's (PSM) degree program in biotechnology at Tennessee State University (TSU) to train future biotechnology workforce with skills that integrate biotechnology and business management. The program will be offered jointly by the Departments of Agricultural Sciences (DAS) and Biological Sciences (DBS), and School of Business (SOB) at TSU, Vanderbilt University (VU), and Tennessee Biotechnology Association (TBA). The objectives are to: (1) Assess current knowledge and the application of biotechnology and business skills in agriculture, healthcare and other related industries in Tennessee; (2) Recruit students and industry personnel into the PSM program; (3) Train industry personnel in blending biotechnology and business skills to improve production and marketing; and (4) Train students, especially minorities, in agricultural biotechnology coupled with business management skills.	Tennessee State University	$227,801
The overall goal of this project is to create an enhanced learning environment that will provide experiential learning opportunities for students majoring in human sciences, health, and nutrition. The experiences gained, will assist students in making significant contributions in future studies relevant to USDA strategic plan of which one goal is "promoting healthy diet and physical activity behaviors." Providing these opportunities to address current real-world issues will prepare students as society-ready graduates and ease their transition into their respective careers.	Prairie View A&M University	$149,999

Purpose or Title	**Recipient Institutions**	**Amount of Award**
The overall goal of this proposal is to build capacity in enhancing the preparation of undergraduate students at the University of Maryland Eastern Shore (UMES) and Lincoln University (LU) for entry and success in graduate studies. The objectives: are to (1) develop and share courses through inter-institutional distance delivery where applicable to strengthen students' skills for graduate school and (2) provide research mentorships for agriculture and related majors to develop their critical and communication skills for graduate school and the workforce.	University of Maryland Eastern Shore	$300,000
To enhance the relevance of understanding the food sciences to address health, nutrition and minimize childhood obesity in urban settings. 1) Provide summer institutes and internships for urban teachers to link internships with food businesses and industries; (2) Establish school-based programs to increase students' awareness about food science, nutrition, and food science careers; (3) Empower K-8 students to improve their health and wellness through summer camps and a youth health symposium; (4) Provide scholarships for community college transfer students seeking undergraduate degrees via teacher education in agriculture, food science and related careers; (5) Implement a "Live, Learn, Health and Wellness conference"; and (6) Conduct BMI and related research during in-school activities and summer camps.	Langston University - Oklahoma	$600,000

Purpose or Title	Recipient Institutions	Amount of Award
The overall goal of this project is to enhance the quality of animal science undergraduate and graduate degree programs by incorporating hands-on experience in molecular technologies in instruction. An additional goal is to expose K12 students to agricultural biotechnology through mini-projects and workshops. Such students with practical experience in molecular technology will be better prepared for a) making career decisions, b) pursuing further graduate studies and, c) seeking employment in industry, academia and government agencies.	Fort Valley State University - Georgia	$149,891
This project will develop a new course, Climate Change Studies Science Response, at two Land-Grant Institutions, Virginia State University (VSU) and Delaware State University (DSU) and an HBCU (Morgan State University-MSU), in collaboration with the University of Sunshine Coast, Australia. The overall goal is to provide international experience in understanding the climate change and adaptation, to the undergraduates (10) and faculty members (5) of the participating institutions (VSU, DSU, and MSU), through a 3-week program at USC in Queensland (Agricultural Province facing environmental problems due to climate change), Australia. This project will present a variety of active learning experiences through the environmental science activities in and outside of the classroom, for preparing a pipeline of Under-represented students from VSU, DSU, and MSU, with knowledge and skills, to enter into challenging positions in Public and Private Sectors.	Virginia State University	$300,000

Purpose or Title	Recipient Institutions	Amount of Award
The main purposes are to build practical capabilities of juniors/seniors in their quest for employment or graduate school in specialized areas; build the capability/outreach of faculty as individual offerings serve as professional development; and enhance AAMU short course offerings to build/maintain rapport with industry/government/academia, community, alumni and current/future students. Also, to increase the knowledge and research capabilities of graduate students as they apply technological skills, equipment usage and practices to their current studies; and to build better relationships with the scientific community as individuals will experience the offerings/ capabilities of the AAMU.	Alabama A&M University	$148,231
The purpose of this project is to prepare globally competent individuals who have a comprehensive and actionable set of knowledge, skills, and attitudes necessary to deal effectively with the cultural, economic, political, and business issues associated with international food and agricultural systems. The objectives are: (1) to strengthen the undergraduate agribusiness curriculum by developing global focused teaching materials and training modules that will enable the integration of international business content into core agribusiness courses; and (2) to provide international experiences for undergraduate students and faculty by developing international internship programs to prepare and mentor minority students for international career opportunities in food and agricultural related sciences.	Alabama A&M University	$150,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
To increase awareness of Animal Science and Pre-Veterinary Medicine programs among minority students and increase recruitment and retention of students in the two programs, by launching an intensive career awareness program aimed at expanding the knowledge and opportunities available for graduates of the programs; and develop pre- college programs aimed at early identification of potential students by strengthening grades 10-12 students' knowledge of animal agriculture.	Alabama A&M University	$149,916
To increase the pool of minority professionals who are well prepared for entry level positions requiring expertise in soil and water science. The project will engage and encourage both traditional and non-traditional students through various initiatives in recruitment, retention and graduation.	Florida A&M University	$149,673
To educate A-STEM students that possess nanotechnology and food safety skills, knowledge and, abilities, the program is designed to 1) promote educational equity by participation of minority students in cutting-edge education, research and workforce-related training; (2) improve the rapid and sensitive diagnostic detection of pathogens, disease monitoring and control practices; (3) improve the quality, safety and security of food; and (4) increase A-STEM literacy among K-12 students and undergraduates.	Virginia State University	$150,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
The purpose is to strengthen the quality of teaching programs at VSU and enhance its contribution to the U.S. food and agricultural industry through curriculum revision and innovative experiential learning activities that target Southside Virginia and encourage at-risk youth to participate in recruitment and enrichment programs. This project addresses the problem of Global Food Security by attracting and preparing a diversified pool of college students to become food and agricultural scientists and professionals The project reflects USDA's mission to train scientists to meet the global needs of a rapidly changing food and agricultural industry.	Virginia State University	$149,345
The purpose of this project is to establish a proteomics laboratory and provide hands-on training opportunities for students, staff, and faculty at North Carolina A&T State University. The teaching capabilities of NC A&T will be greatly enhanced by having the infrastructure, expertise and techniques in place to properly train a new generation of individuals that will be competitive nationally and globally. By offering proteomics training opportunities for students, this project will diversify the workforce by equipping minority students with experience in a premier field of research. This initiative will impact the food and agricultural sciences higher education system by training minority students in proteomics and making them more competitive for employment opportunities. The training of technical staff and faculty will build a stable, critical mass of expertise which will ensure long-term proteomics capacity for the university; thus providing a foundation for continued proteomics training at NC A&T.	North Carolina A&T State University	$149,910

Purpose or Title	Recipient Institutions	Amount of Award
4-H Youth Development: An Afterschool Mentoring Program For At-Risk Youth	Kentucky State University	250,000
Combining Youth, Passion and Resources for Environmental Science Studies (CYPRESS)	South Carolina State University	599,767
Strengthening the Small Ruminant Extension Program at Alabama A&M University	Alabama A&M University	223,068
Comprehensive Entrepreneurship Extension Team Project	Alabama A&M University	348,106
Building Opportunities through Leadership Development	Southern University Agricultural Research & Extension Center	122,292
Family FARMS Extension Capacity Building	University of Maryland Eastern Shore	199,320
Increasing Adoption of Organic Farming Practices in Alabama through Teaching and Educational Extension Activities	Tuskegee University	600,000
4-H Family GROWTH	West Virginia State University Research & Development Corp.	246,158
Extension education delivery tools for dairy goat producers: A web-based certification program and e-book	Langston University - Tulsa	350,000
Evaluating the Performance and Grazing Behavior of Meat Goats in the Development of a Field Station in Missouri Woodlands	Lincoln University of Missouri	278,468
Establishment of a Mobile Meat Processing Lab (MMPL) at Delaware State University	Delaware State University	247,884
An In-Depth IPM and Environmental Education for Limited-Resource Farmers in Rural Mississippi	Alcorn State University	249,860

FY 2012

The awards for the 1890 Institution Teaching, Research, and Extension Capacity Building Grants Program for FY 2012 have not been finalized.

10. 1890 Facilities Grants Program

FY 2009

Purpose or Title	Recipient Institutions	Amount of Award
Purchase Farm Land to Support Research, Teaching and Extension Programs	University of Maryland, Eastern Shore (UMES)	773,963
1890 Facilities Grant	Virginia State University	970,565
Enhancement of Teaching, Research and Extension Facilities at North Carolina A&T State University (2009)	North Carolina Agricultural and Technical State University	1,125,292
Kansas City Outreach Center Continued/Various Capital Improvements	Lincoln University	890,142
FAMU 2009 Facilities Grant Program	Florida A&M University (FAMU)	894,648
Improvement of Research, Extension and Teaching Facilities	S. C. State University	880,707
The 1890 Facilities Grant Program - FY 2009	Prairie View A&M University	1,408,428
Integrated Space for Reunification of School of Agriculture and Consumer Sciences	Tennessee State University	1,049,630
Construction of an annual science research, extension, and teaching facility and completion of an environmental, ecology, and natural resources center	Alcorn State University	1,132,347
Maintaining a Competitive Edge for Human Capital Development in Extension, Instruction and Research in the Agricultural Sciences	Alabama Agricultural and Mechanical University (AAMU)	955,177
1890 Facilities Grants Program: Southern University	Southern University Agricultural Research & Extension Center	831,072
Langston University's Construction and Renovation Project	Langston University	940,512
"Continue Developing & Supporting New and Existing Research and Extension Programs and Facilities at West Virginia State University"	West Virginia State University	791,083
1890 Facilities Grant Program at Tuskegee University	Tuskegee University	955,177
2008 Kentucky State University 1890 Facilities Grant FY08-12 Plan of Work with Updates and First Year Proposal	Kentucky State University	1,111,147
Rural Health and Quality Child Care Programs	Fort Valley State University	1,006,854

Purpose or Title	Recipient Institutions	Amount of Award
Classroom Office Building	Delaware State University	678,011
Enhancing Research, Extension and Academic Facilities at the University of Arkansas at Pine Bluff	University of Arkansas at Pine Bluff	855,245
Enhancing Research, Extension and Academic Facilities at the University of Arkansas at Pine Bluff	University of Arkansas at Pine Bluff	30,000

FY 2010

Purpose or Title	Recipient Institutions -	Amount of Award
FAMU 2010 Facilities Grant Program	Florida A&M University (FAMU)	982,622
Improvement of Research, Extension and Teaching Facilities	S. C. State University	967,310
1890 Facilities Grant Program at Tuskegee University	Tuskegee University	1,049,103
Integrated Space for Reunification of School of Agriculture and Consumer Sciences	Tennessee State University	1,152,844
Enhancement of Teaching, Research and Extension Facilities at North Carolina A&T State University (2010)	North Carolina Agricultural and Technical State University	1,235,946
1890 Facilities Grants Program: Southern University	Southern University Agricultural Research & Extension Center	912,794
1890 Facilities Grant Program, formerly titled "Construction of an Annual Science Res., Ext., and Teaching Facility"	Alcorn State University	977,673
Langston University`s Construction and Renovation Project	Langston University	1,032,996
Maintaining a competitive edge for human capital development in extension, instruction and research in the agricultural sciences	Alabama Agricultural and Mechanical University (AAMU)	1,049,103
1890 Facilities Grant Program 1 (FY2010)	Prairie View A&M University	1,546,923
Kentucky State University 1890 Facilities Grant Proposal (2010)	Kentucky State University	1,220,410
Kentucky State University 1890 Facilities Grant Proposal (2009)	Kentucky State University	1,111,147
1890 Facilities Grant	Virginia State University	1,066,004
Purchase farm land to support research, teaching and extension programs	University of Maryland, Eastern Shore (UMES)	850,069

Purpose or Title	Recipient Institutions	Amount of Award
Classroom Office Building	Delaware State University	744,682
Integrated Farming Systems Project/Various Capital Improvements	Lincoln University	1,243,693
Continue Developing New and Strengthening Existing Research and Extension Programming Through the 1890 Facilities Program	West Virginia State University Research & Development Corp.	868,873
Enhancing Research, Extension and Academic Facilities at the University of Arkansas at Pine Bluff	University of Arkansas at Pine Bluff	972,294

FY 2011

Purpose or Title	Recipient Institutions	Amount of Award
Purchase farm land to support research, teaching and extension programs	University of Maryland, Eastern Shore (UMES)	847,898
1890 FACILITIES GRANT	Virginia State University	1,063,833
Integrated Farming Systems Project/Various Capital Improvements/Farm Acquisition	Lincoln University	1,241,522
Enhancing Research, Extension and Academic Facilities at the University of Arkansas at Pine Bluff	University of Arkansas at Pine Bluff	970,123
1890 Facilities Grant Program: Alcorn State University	Alcorn State University	975,502
Maintaining a competitive edge for human capital development, research, and extension in the food and agricultural sciences	Alabama Agricultural and Mechanical University (AAMU)	1,046,932
Classroom Office Building	Delaware State University	742,511
1890 Facilities Grant Program: Kentucky State University (2011)	Kentucky State University	1,218,242
1890 Facilities Grant Program at Tuskegee University	Tuskegee University	1,046,932
1890 Facilities Grant Proposal	Prairie View A&M University	1,544,752
1890 Facilities Grants program: Southern University	Southern University Agricultural Research & Extension Center	910,623
Integrated Space for Reunification of School of Agriculture & Consumer Sciences	Tennessee State University	1,150,673
Improvement of Research, Extension and Teaching Facilities	S. C. State University	965,139

Purpose or Title	Recipient Institutions	Amount of Award
FAMU 2011 Facilities Grant Program	Florida A&M University (FAMU), acting for and on behalf of the Facilities Grant Program	980,451
Rural Health and Nutrition, Food Preservation and Quality Child Care Programs	Fort Valley State University	1,103,690
Enhancement of Teaching, Research and Extension Facilities at North Carolina A&T State University (2011)	North Carolina Agricultural and Technical State University	1,233,775
Langston University`s Construction and Renovation Project	Langston University	1,030,825
"Strengthening New and Existing Research and Extension Programs, and Associated Administrative Functions, via the 1890 Facilities Program at	West Virginia State University Research & Development Corp.	866,702

FY 2012

The awards for the 1890 Facilities Grants Program for FY 2012 have not been finalized.

11. Agriculture in the Classroom

FY 2009

Purpose or Title	Recipient Institutions	Amount of Award
2012 National Agriculture In The Classroom Conference	Colorado Foundation for Agriculture	$48,000
Ag In The Classroom Enhancement Grants	Utah State University	$95,000
USDA-AITC E-Resources	Utah State University	$85,750
2013 National Agriculture In The Classroom Conference	Minnesota Agriculture in the Classroom Foundation	$45,000
Reinventing The Food And Fiber Systems Agricultural Literacy Curriculum Framework	Regents of the University of Minnesota	$12,000

FY 2010

Purpose or Title	**Recipient Institutions**	**Amount of Award**
USDA-AITC E-Resources	Utah State University	$$75,000
Ag In The Classroom Enhancement Grants	Utah State University	$95,000
Florida Agriculture In The Classroom Will Host The 2011 National Agriculture In The Classroom Conference June 22-25 In Fort Lauderdale	Florida Agriculture in the Classroom	$90,000
Reinventing The Food And Fiber Systems Agricultural Literacy Curriculum Framework	Regents of the University of Minnesota	$12,912
2012 National Agriculture In The Classroom Conference	Colorado Foundation for Agriculture	$42,000

FY 2011

Purpose or Title	**Recipient Institutions**	**Amount of Award**
2012 National Agriculture In The Classroom Conference	Colorado Foundation for Agriculture	$48,000
Ag In The Classroom Enhancement Grants	Utah State University	$95,000
USDA-AITC E-Resources	Utah State University	$85,750
2013 National Agriculture In The Classroom Conference	Minnesota Agriculture in the Classroom Foundation	$45,000
Reinventing The Food And Fiber Systems Agricultural Literacy Curriculum Framework	Regents of the University of Minnesota	$12,000

FY 2012

The awards for the Agriculture in the Classroom for FY 2012 have not been finalized.

12. Women and Minorities in Science, Technology, Engineering and Mathematics Fields Program

FY 2009

Program did not begin until 2010.

FY 2010

Purpose OR Title	Recipient Institutions	Amount of Award
To enhance the readiness of women and under-represented minorities from Georgia's rural communities to successfully transition into careers in STEM in general and the food, agriculture, and natural resource sciences in particular.	University of Georgia	$284,235
SCIGIRLS will: 1) Employ the broad reach of television and new media technologies, augmented with community-based education and outreach, to foster a greater interest in STEM among girls ages 8 to 13 and their parents, with girls from diverse and rural communities as the highest priority; 2) To connect girls to existing, quality STEM education opportunities in their own communities; 3) To enhance existing research-based programs by providing educators with videos, professional training, online tools and print resources, so that any leader can guide a group of girls through authentic and rewarding STEM experiences; and 4) To inspire an increase in the quantity and quality of girls' science encouragement programs nationwide.	Twin Cities Public Television, Inc.	$94,213
To enhance the readiness of women and under-represented minorities from Georgia's rural communities to successfully transition into careers in STEM in general and the food, agriculture, and natural resource sciences in particular.	University of Georgia	$284,235

FY 2011

Purpose or Title	Recipient Institutions	Amount of Award
This project aims to increase the successful placement of women and underrepresented minorities into higher education and the workforce in food and agriculture-related STEM fields; to increase their involvement as innovators and entrepreneurs adding value to those fields in addressing modern challenges; and to contribute to the development of sustainable and renewable energy for the future of the State of Hawaii and the world.	Maui Economic Development Board, Inc.	$265,000
The BRIDGE program will provide potential transfer students with a mentored research experience, an e-mentoring network, and placement in the STEM workforce in Kansas.	Kansas State University	$113,915

FY 2012

The awards for the Women and Minorities in Science, Technology, Engineering and Mathematics for FY 2012 have not been finalized.

13. Multicultural Scholars Program

FY 2009

Purpose or Title	Recipient Institutions	Amount of Award
Developing the Professional Capacity of Agricultural and Natural Resources on Native American Reservations	Montana State University	150,000
An enhanced academic program to prepare multicultural students for successful careers in food and agricultural sciences	The University of Georgia	150,000
Enhancing Multicultural Diversity in Veterinary Health Sciences	Regents of the University of Minnesota	136,000
Developing the Professional Capacity of Agricultural and Natural Resources on Native American Reservations	Montana State University	150,000
An enhanced academic program to prepare multicultural students for successful careers in food and agricultural sciences	The University of Georgia	150,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Enhancing Multicultural Diversity in Veterinary Health Sciences	Regents of the University of Minnesota	136,000
Developing Globally Agricultural Ready Scholars for the 21st Century	North Carolina Agricultural and Technical State University	150,000

13. Multicultural Scholars Program

FY 2010

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Promoting Cultural Diversity in the Veterinary Workforce	University of Georgia	200,000
Multicultural Scholars Program for Agroecology and Sustainable Agriculture at Florida International University	Florida International University	180,000
Multicultural Advocates in Nutrition Needs & Agriculture (MANNA) program	University Of Illinois Urbana Champaign	160,000
A Collaborative Approach to Increasing Diversity in Food Science through the Multicultural Scholars Program	North Dakota State University	160,000
Training Competitive Nutrition Scientists from Underrepresented Backgrounds in 21st Century Skills to Stem the Tide of Childhood Obesity	The Ohio State University	126,000
Oregon State University Multicultural Scholars Program in Bioresource Research	Oregon State University	180,000
Veterinary and Biomedical Sciences Multicultural Scholars Program, Penn State University	The Pennsylvania State University	120,000

FY 2011

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Developing a Diversity of Leaders in Targeted Majors in the Agricultural Sciences	Purdue University	200,000
Virginia State University Multicultural Scholars` Special Experiential Learning Program	Virginia State University	12,000
Enhancing Undergraduate Training of Underrepresented Ethnic Populations in Natural Resources and Environmental Sciences	North Carolina Agricultural and Technical State University	180,000
Multicultural Scholars in Agricultural Economics: Enhancing Food and Agriculture Diversity	Fort Valley State University	160,000

FY 2012

The awards for the Multicultural Scholars Program for FY 2012 have not been finalized.

14. National Needs Fellowship Program

FY 2009

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Pathways to Prepare Underrepresented Fellows to Meet the Needs of Global Agricultural Biosecurity: A graduate-level career development program	Texas A&M University	236,000
The Role of Social Institutions in Mediating Differential Agricultural Resource Access in Post-Conflict Lira District, Northern Uganda (Supplemental Award)	Iowa State University of Science and Technology	8,000
A Proposal to Train Doctoral Students in the Economics and Management of Bio-renewable Energy	Iowa State University of Science and Technology	234,000
Economics of Alternative Energy, Agricultural Management and Economics, Ph.D. Fellowships	Oklahoma State University	234,000
Research opportunities in agricultural biosecurity: Strengthening science and management of invasive species	Colorado State University	234,000
Gendered Vegetable Value Chains and Sustainable Agriculture (Supplemental Award)	Iowa State University of Science and Technology	8,000

Purpose or Title	Recipient Institutions	Amount of Award
Graduate Training Program for Applications of Nanotechnology to Improve Food Safety	University of Massachusetts Amherst	234,000
From Problem To Resource: An Integrated Training Approach To Biologic Systems Management	University of Connecticut	240,000
Multidisciplinary Doctoral Education Program in Lignocellulosic Biofuels Science and Engineering	North Carolina State University	234,000
Managing for Resilience in Forested Ecosystems of the Intermountain West: A model for training future researchers and managers	Utah State University	236,000
Graduate Training Program in Quantitative Sciences for Sustaining Forest Resources	Virginia Polytechnic Institute and State University	236,000
International Graduate Research Travel: Investigating harmful algal bloom formation and mitigation (Supplemental Award)	University of Rhode Island	7,400
Developing the Next Generation of Neoclassical Plant Breeders	University of Idaho	249,000
Graduate Training in Food Safety and Human Nutrition: An Approach that Integrates Diagnostics, Nutrition and Risk Analysis.	Tuskegee University	219,500
Meeting the Need for M.S. and Ph.D. Scholars Trained in the TESA of Agricultural Management and Economics	Kansas State University	236,000
Nutrition and Childhood Obesity Training Program	Regents of the University of California	258,000
Plant Breeding in the Era of Cheap Genotyping and Expensive Phenotyping	Regents of the University of Minnesota	234,000
Inclusive Excellence in Forestry Graduate Programs at Virginia Tech	Virginia Polytechnic Institute and State University	256,000
National Needs Fellows in Sustainable Agriculture and Natural Resources Sciences at Florida International University:	Florida International University	240,000
Establishment of a Graduate Training Program to Meet the Future Needs of Food Animal Quantitative Genetics	NC State University	258,000
Genomics for Resistance to Disease in Animals: An Integrated Educational Approach	Iowa State University of Science and Technology	258,000

Purpose or Title	Recipient Institutions	Amount of Award
Interdepartmental Nutrition Program at Purdue Fellowship Application in the Discipline of Human Nutrition and the Area of Obesity and Diet	Purdue University	234,000

14. National Needs Fellowship Program

FY 2010

Purpose or Title	Recipient Institutions	Amount of Award
Pathways to Prepare Underrepresented Fellows to Meet the Needs of Global Agricultural Biosecurity: A graduate-level career development program	Texas A&M University	236,000
The Role of Social Institutions in Mediating Differential Agricultural Resource Access in Post-Conflict Lira District, Northern Uganda (Supplemental Award)	Iowa State University of Science and Technology	8,000
A Proposal to Train Doctoral Students in the Economics and Management of Bio-renewable Energy	Iowa State University of Science and Technology	234,000
Economics of Alternative Energy, Agricultural Management and Economics, Ph.D. Fellowships	Oklahoma State University	234,000
Research opportunities in agricultural biosecurity: Strengthening science and management of invasive species	Colorado State University	234,000
Gendered Vegetable Value Chains and Sustainable Agriculture (Supplemental Award)	Iowa State University of Science and Technology	8,000
Graduate Training Program for Applications of Nanotechnology to Improve Food Safety	University of Massachusetts Amherst	234,000
From Problem To Resource: An Integrated Training Approach To Biologic Systems Management	University of Connecticut	240,000
Multidisciplinary Doctoral Education Program in Lignocellulosic Biofuels Science and Engineering	North Carolina State University	234,000
Managing for Resilience in Forested Ecosystems of the Intermountain West: A model for training future researchers and managers	Utah State University	236,000
Graduate Training Program in Quantitative Sciences for Sustaining Forest Resources	Virginia Polytechnic Institute and State University	236,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
International Graduate Research Travel: Investigating harmful algal bloom formation and mitigation (Supplemental Award)	University of Rhode Island	7,400
Developing the Next Generation of Neoclassical Plant Breeders	University of Idaho	249,000
Graduate Training in Food Safety and Human Nutrition: An Approach that Integrates Diagnostics, Nutrition and Risk Analysis	Tuskegee University	219,500
Meeting the Need for M.S. and Ph.D. Scholars Trained in the TESA of Agricultural Management and Economics	Kansas State University	236,000
Nutrition and Childhood Obesity Training Program	Regents of the University of California	258,000
Plant Breeding in the Era of Cheap Genotyping and Expensive Phenotyping	Regents of the University of Minnesota	234,000
Inclusive Excellence in Forestry Graduate Programs at Virginia Tech	Virginia Polytechnic Institute and State University	256,000
1National Needs Fellows in Sustainable Agriculture and Natural Resources Sciences at Florida International University:	Florida International University	240,000
Establishment of a Graduate Training Program to Meet the Future Needs of Food Animal Quantitative Genetics	NC State University	258,000
Genomics for Resistance to Disease in Animals: An Integrated Educational Approach	Iowa State University of Science and Technology	258,000
Interdepartmental Nutrition Program at Purdue Fellowship Application in the Discipline of Human Nutrition and the Area of Obesity and Diet	Purdue University	234,000

FY 2011

Purpose or Title	Recipient Institutions	Amount of Award
Ph.D. Fellowships to train plant breeders for the 21st Century	Cornell University	238,500
Improving the Economic Resiliency of Rural Communities Under Natural Disaster and Environmental Risk	Louisiana State University Agricultural Center	238,500
Bridging Forest Biomaterials Engineering and Forest Biotechnology	North Carolina State University	159,000
Graduate Education in the Economics of Mitigating and Adapting to Climate Change: Evaluating Tradeoffs, Resiliency and Uncertainty in Nature	Oregon State University	241,000
5. Exploring foods to enhance health and reduce obesity	Purdue University	241,000
Educating leaders for green economy: achieving energy independence and environmental sustainability with forest bioenergy	The University of Georgia Research Foundation, Inc.	82,000
New Biology Fellows Program in Animal and Plant Production	Board of Trustees of the University of Illinois	241,000
Thought for Food: Training scientists who can translate basic research into healthy foods	The Pennsylvania State University	236,419
Tufts-USDA Doctoral Fellowship in Childhood Obesity Prevention	Tufts University	238,500
Graduate Training in Food Production and Safety	University of Florida	238,500
National Needs Graduate Fellowship Program in Food Animal Biosecurity: Infectious Disease Ecology	Regents of the University of Minnesota	238,500
BRICs and Mortarboards: Preparing for the New International Agricultural Economy	The Board of Regents of the University of Wisconsin System	262,500
Graduate Training in the Science of Forest Ecosystem Restoration and Management	University of Mississippi	261,000
Educating Food Engineers to Develop High-Performance Integrated Processing and Packaging Technologies that Enhance Food Safety and Quality	Washington State University	238,500
An IntegrateD Educational Approach (IDEA): Combined Computational and Genomics Education in Livestock	Iowa State University of Science and Technology	262,500
Training the next generation of under-represented and cross-disciplinary scholars at the frontiers of agricultural	University of South Florida	241,000

Purpose or Title	**Recipient Institutions**	**Amount of Award**
Research opportunities in forest products marketing as a result of global green consumerism	University of Washington	202,500
Graduate Training To Meet Current And Future Challenges In Post-Harvest Protection & Biosecurity	Kansas State University	200,000
Translating Forest Science for Global Practitioners	ABOR for and on behalf of Northern Arizona University	251,500
Integrated genomics training program in quantitative, statistical and molecular genetics, and breeding of food animals	Michigan State University	238,500

FY 2012

The awards for the National Needs Fellowship Program for FY 2012 have not been finalized.

Crop Protection

Mr. Kingston: The President's budget request proposed to consolidate six programs related to crop protection. What is USDA's plan for managing a consolidated program? What would be the priority areas? What would stay the same? What would be different? Would the consolidated program save staff time or resources? How much would be saved?

Response: The President's Budget identifies five priority areas that will be supported by the program: the development of crop protection tactics and tools; the development of diversified Integrated Pest Management systems(IPM); enhancing agricultural biosecurity; developing IPM for a sustainable society; and developing the next generation of IPM scientists. These priority areas encompass core research, extension and integrated service activities currently supported by the six budget lines that will be consolidated. The Department is currently soliciting input from program stakeholders so that we will be able to develop a coordinated program that eliminates duplication and focuses available resources on priority needs. Until this process is completed, it is premature to provide specifics on resulting differences and savings. The coordinated approach that will be possible in a single consolidated program will result in a more effective and efficient use of federal funding appropriated to NIFA for pest management efforts.

Scientific Integrity

Mr. Kingston: Please provide a copy of the agency's scientific integrity policy.

Response: The information is provided for the record.

[The information follows:]

USDA Scientific Integrity Policy

1. BACKGROUND AND PURPOSE

This Memorandum establishes the USDA Scientific Integrity Policy to provide guidance to Departmental leadership and scientists to ensure the highest level of integrity in all aspects of the executive branch's involvement with scientific and technological processes. This policy includes guidance to decision makers as we develop public policies based on sound science relevant to food, agriculture, natural resources, and related issues. This information will ensure public confidence by articulating the principles of scientific integrity and roles and responsibilities of all USDA employees, including career staff and political appointees, in maintaining these principles within the Department of Agriculture.

The policy directs employees, political and career, on both the proper use of scientific findings and the principles of conducting scientific activities and is consistent with the Presidential Memorandum on Scientific Integrity, dated March 9, 2009, the Office of Science and Technology Policy's 2010 guidance on scientific integrity, the Office of Management and Budget (OMB) Information Quality Guidelines1 , and the 2005 OMB Final Information Quality Bulletin for Peer Review.2

2. REFERENCES

a. 5 USC 301, Departmental Regulations
b. PL 106-554, The Information Quality Act
c. 65 FR 76260-76264, Federal Policy of Research Misconduct
d. 5 CFR 735, Employee Responsibilities and Conduct
e. 5 CFR 2635, Standards of Ethical Conduct for Employees of the Executive Branch f. DR 2401-001, USDA Intramural Research Misconduct Policies and Guidelines
g. DR 4070-735-001, Employee Responsibilities and Conduct
h. 7 CFR 2.69, Establishment of the Office of the Chief Scientist
i. DR 1041-001, Advisory Committee Management
j. 5 USC 1221, Whistleblower Protection Act of 1989
k. Statistical Policy Directive No. 3, Compilation, Relevance, and Evaluation of Principal Federal Economic Indicators
l. Statistical Policy Directive No. 4, Release and Dissemination of Statistical Products Produced by Federal Statistical Agencies

3. POLICY

Pursuant to the Presidential Memorandum on Scientific Integrity dated March 9, 2009, and complying with applicable statutes, regulations, trade agreements and/or international protocols, Executive Orders, or Presidential Memoranda, the policy of the Department is to:

a. Promote a culture of scientific integrity. Scientific progress depends upon honest investigation, open discussion, refined understanding, and a firm commitment to evidence. Science, and public trust in science, thrives in an environment that shields scientific data and analyses from inappropriate influence. Scientific and technological findings should not be suppressed or altered;

b. Select and retain candidates for science and technology positions at USDA, based on the candidate's scientific and technological knowledge, credentials, experience, and integrity;

c. Utilize information based on well-established scientific processes, including peer review where appropriate, when considering scientific or technological information in policy decisions;

d. Reflect scientific information appropriately and accurately when complying with and applying relevant statutory and regulatory standards and procedures;

e. Make publicly available, to the extent practicable and in accordance with the Freedom of Information Act or other applicable statutes, regulations or document handling procedures and policies, the scientific or technological findings or conclusions considered or relied on in policy decisions, and provide information on the specific approach and data used to develop such scientific information;

f. Ensure that mechanisms are in place to resolve disputes that arise from instances in which the scientific process or the integrity of scientific and technological information may be compromised;

g. USDA shall continue to comply with the requirements of the Whistleblower Protection Act of 1989 and adopt additional procedures as are necessary to ensure the integrity of scientific and technological information and processes on which the agency relies in its decision making;

h. USDA will continue to develop policies, in coordination with the General Services Administration and consistent with the Administration's guidance on lobbyists serving on Federal advisory committees (FACs), for convening FACs tasked with giving scientific advice, consistent with the following:
   (1) The recruitment process for new FAC members should be as transparent as practicable. When practicable and appropriate, FAC member vacancies will be announced widely, including notification in the Federal Register with an invitation for the public to recommend individuals for consideration and for self-nominations;
   (2) Professional biographical information (including current and past affiliations) will be made widely available to the public (e.g., via a Web site) subject to Privacy Act and other statutory/regulatory considerations;
   (3) The selection of members to serve on a scientific or technical FAC will be based on expertise, knowledge, and contribution to the relevant subject area. Additional factors for consideration will include the availability of the member to serve, diversity among

members of the FAC, and the ability to work effectively on advisory committees. Committee membership should be fairly balanced in terms of points of view represented with respect to the functions to be performed by the FAC;

(4) Except when prohibited by law, USDA will make all Conflict of Interest waivers granted to the committee members publicly available; and

(5) Except when explicitly stated in a prior agreement between USDA and a FAC, all reports, recommendations, and products produced by FACs will be treated as solely the findings of such committees rather than of the U.S. Government, and thus will not be subjected to intra- or inter-agency revision.

i. USDA scientists are encouraged but not required to participate in communications with the media regarding their research with appropriate coordination with their immediate supervisor and public affairs office. The role of the public affairs office is to assist with presentation, style, and logistics of the communication, not to alter its substance; and

j. Promote and facilitate, as permitted by law, the professional development of USDA scientists and engineers, and analysts in a manner that is consistent with Federal rules of ethics, job responsibilities, and existing agency policies. Promotion and facilitation of professional development include:

(1) Encouraging publication of research findings in peer-reviewed, professional, or scholarly journals;
(2) Encouraging presentation of research findings at professional meetings;
(3) Allowing USDA scientists and engineers to become editors or editorial board members of professional or scholarly journals;
(4) Allowing participation in professional societies, committees, task forces and other specialized bodies of professional societies, including removing barriers for serving as officers or on governing boards of such societies; and
(5) Allowing Government scientists and engineers to receive honors and awards for their research and discoveries with the goal of minimizing, to the extent practicable, disparities in the potential for private-sector and public sector scientists and engineers to accrue the professional benefits of such honors or awards.

4. RESPONSIBILITIES

This Memorandum establishes the USDA's scientific integrity policy to direct the conduct of scientific investigation, management of scientific activities, and use of scientific information.

a. This policy applies to:

(1) All USDA Mission Areas, Agencies, and Offices;
(2) All USDA employees, political and career, who engage in, supervise, or manage scientific activities, analyze and/or publicly communicate information resulting from scientific activities, or who utilize the information in decision making; and
(3) All contractors who assist with developing or applying the results of scientific and technical activities.

b. The USDA Chief Scientist is directed to implement all aspects of this directive. Specific responsibilities, which may be delegated as appropriate, include:

  - (1) Seek consultation with the USDA Science Council in regard to implementation of this policy;
  - (2) Review Mission Area, Agency, and Office compliance with this policy;
  - (3) Develop training to ensure that employees understand the policy and are adequately prepared to comply; and
  - (4) Issue and update as appropriate, a Departmental Regulation.

c. The USDA Agencies and Offices will:

  - (1) Adhere to the Departmental policy on scientific integrity;
  - (2) Develop an implementation plan that addresses communications education, training, and fiscal resources to support scientific integrity as appropriate; and
  - (3) Monitor and report compliance with the USDA Scientific Integrity Policy.

5. IMPLEMENTATION

This policy is effective immediately and will remain in effect for one year. Prior delegations of authority, administrative regulations, and other directives not inconsistent with the provisions of this Memorandum shall remain in full force and effect.

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1 Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, 2002; http://www.whitehouse.gov/sites/default/files/omb/assets/omb/fedreg/reproducible2.pdf

2 On December 16, 2004, OMB, in consultation with the Office of Science and Technology Policy (OSTP), issued its Final Information Quality Bulletin for Peer Review to the heads of departments and agencies (available at http:// www.whitehouse.gov/omb/memoranda/ fy2005/m05-03.html)

Status of Funds

Mr. Kingston: Please provide a copy of the agency's latest Status of Funds report, or any related report that is provided to the NIFA Director on a regular basis on the agency's Status of Funds.

Response: The information is submitted for the record.

[The information follows:]

National Institute of Food and Agriculture

Fiscal Year 2012

Administration	$56,671,738
Program	$1,162,214,994
Total FY 2012 Discretional Funding	$1,218,886,732

Questions for the Record Submitted by Congressman Tom Latham

Agricultural Research Service

Administrative Costs

Mr. Latham: What percentage of funding is taken from each research station for ARS administration?

The Committee remains very interested in the continued aerial application research that benefits all Americans -- farmers and consumers alike. Aerial application research has made application much more efficient and safe, thus creating greater savings which is passed onto the farmer and consumer. We are concerned about the continued rise in administrative costs which takes an increasingly larger bite out of research every year considering the fact that the aerial application research budget has stayed level.

1) What percentage of funding is taken from each research station for ARS administration?

Response: ARS assesses 10 percent on any program increases appropriated to the Agency to finance administrative and program management costs associated with conducting nationwide research programs. The balance, 90 percent, is allocated directly to ARS research projects at the locations.

2) Is there a way to reduce those administrative costs? With funding either reduced or unchanged individual stations are doing less research as their program costs increase.

Response: The 10 percent assessment to cover administrative and program management costs associated with conducting nationwide research programs is lower than that charged by other agencies and institutions and reflects efficient use of Federal funds to direct and manage ARS' diverse research programs within the resources provided. ARS is pursuing several avenues to ensure we are managing as efficiently and effectively as possible. First, we are scrutinizing all travel to ensure minimum spending in order to meet the goals under the President's Promoting Efficient Spending program. Spending for supplies, printing, and advisory services is also being scrutinized. Second, and most notably, we have reorganized our Administrative Services structure and implemented new virtual Business Service Centers. This implementation allowed us to reduce staffing needs and costs in order to meet the FY 2012 appropriation reduction. These Business Service Centers have allowed us to reduce redundancy of services and eliminate single point failures in service delivery. As the structure matures, we will be able to hire staffing in more rural, less costly sites of the country. Finally, ARS is participating actively in the USDA's Blueprint for Stronger Services, Administrative Solutions Project which is expected to increase efficiencies and reduce costs for the Agencies.

Aerial Research

Mr. Latham: Developing more efficient aerial research technology remains important to the farming industry. Nearly 20 percent of all agriculture crop protection products in the U.S. are applied by aerial applicators.

Can the Committee continue to see adequate research being conducted at the Department's aerial application facilities?

Response: ARS has an active aerial application research program in College Station, Texas and Stoneville, Mississippi. This research benefits a wide range of customers/stakeholders such as wheat and cotton producers, citrus producers, and public health officials charged with mosquito control. ARS plans to continue this research program within the constraints of available resources.

Questions for the Record Submitted by Congressman Sam Farr

Crop Protection Program Coordination

Mr. Farr: How will the new Crop Protection Program coordinate a full biopesticide and organic support function? Or coordinate the input of chemical/biological product manufactures, specialty crop growers, EPA, and ARS researchers in deciding research priorities for any given year?

Response: The Crop Protection Program will support coordinated efforts to develop and extend effective, affordable, and environmentally sound pest management strategies to reduce losses caused by diseases, insects and weeds. This effort will include early detection, identification, monitoring, and implementation of biologically-based and area-wide strategies to manage key native and invasive species and postharvest pests. The program will support the development of integrated pest management practices that optimize the use of science-based knowledge based on the effective use of cultural methods, biological control, host plant resistance, and chemical control. Once the Crop Protection Program is implemented, stakeholder engagement will continue to be essential in identifying specific needs and priorities for the research, education and service efforts supported by the program. We will build on the outstanding stakeholder engagement that has been a key element of the Minor Crop Pest Management/IR-4, Extension Integrated Pest Management Coordination and Support, and Regional Integrated Pest Management Centers programs by ensuring that stakeholder advisory groups focused on individual program areas are networked together so they can develop a complete understanding of the entire program. We believe that the effectiveness of the agency's investments in pest management research and extension efforts will be increased greatly by asking these currently uncoordinated stakeholder advisory groups to help us guide the entire program, rather than a single priority area.

Commodity Liaison Committee

Mr. Farr: The IR-4 has a "Commodity Liaison Committee" consisting of representatives of major commodity organizations representing specialty crops. That Committee came out 100% against this undefined consolidation proposal. They view IR-4 as an ideal example of how the Federal government should fund activities to meet the real needs of agriculture. According to these stakeholders, IR-4 runs an efficient program that provides significant and necessary service that would not be provided by the private sector.

Without IR-4, many of these crops would not be grown in the United States, increasing our trade deficit and lowering our food security. Furthermore, through the efforts of IR-4, the public has access to fruits and vegetables which are cornerstone of a healthy diet at an affordable price.

Why would you want to move this proposal forward in the face of that kind of opposition from our constituents, and when it possibly threatens our food security, worsens our economy and does not help the public?

Response: The Department recognizes the importance of the Minor Crop Pest Management Program, or IR-4, and is committed to providing continued support for the work conducted by the program. We believe that the proposed budget consolidation and creation of the Crop Protection Program will strengthen rather than diminish the ability of the Federal government to address the needs of the specialty crops industry. The Department is conducting a series of stakeholder listening sessions so that stakeholders can help us reassess program needs and ensure that the components of the program fit together in an effective and complementary way. The new program will address the needs of specialty crop growers in a more comprehensive way, through investments in the research, education and extension efforts that are needed. The work conducted by the IR-4 Project will be part of this program. We have reached out to the IR-4's Commodity Liaison Committee and asked its members to help us identify the core elements of the IR-4 Project so that we can ensure that these elements continue to be supported by the consolidated Crop Protection Program. We are convinced that with the Committee's help, we will be able to design the Crop Protection Program in a way that will better serve the needs of the specialty crops industry. The program will better serve by coordinating continued support for the registration of pesticides needed for specialty crops along with research and extension efforts aimed at addressing other issues and needs that confront their industry, including invasive pests and resistance management.

IR-4 Program Continuity

Mr. Farr: The IR-4 mission involves complex research studies that take many years from start to completion. Furthermore, those food use studies are required to be conducted under Good Laboratory Practice Regulations. What are your estimates of the cost and time necessary to replace the existing infrastructure and expertise to conduct these specialized studies? And how would programs that are currently underway be continued, without interruptions or changes in direction?

Response: We do not anticipate that the transition to the Crop Protection Program will result in the replacement of the entire IR-4 infrastructure or cause disruptions in ongoing studies. The five institutions that provide leadership for the IR-4 Project have not been replaced since funding was first awarded using a competitive process in FY 2007. Should one or more of the institutions be replaced as a result of the competitive process, the expertise needed to complete ongoing work would continue to be available at universities and other research institutions located throughout the United States.

International Trading Partners/IR-4

Mr. Farr: Are you aware that many of our international trading partners have established minor use programs specifically modeled after the IR-4 Project? Those nations are spending significant resources to purchase appropriate equipment and train scientists to do the exact work that is currently completed by the IR-4 team. What has changed in the US that is influencing NIFA to propose the elimination of funding for the model IR-4 Project at the same time other nations are investing their limited resources to establish "IR-4 Like" minor use programs?

Response: The President's budget request does not propose to eliminate funding for the Minor Crop Pest Management/IR-4 program. The Department recognizes and values the contributions of the IR-4 Project and we anticipate that the Crop Protection Program will continue supporting the registration of pesticides needed for specialty crops and minor uses. The IR-4 Project has been supported by USDA since the early 1960s, and it represents one of the Federal government's key investments in the development of improved pest management practices to help agricultural producers increase profitability and minimize risks to human health and the environment. The IR-4 Project provides a crucial service to the specialty crop industry, but the complex needs and challenges of the industry require a more comprehensive response, one that encompasses additional investments in research, education and extension efforts. We believe the President's proposal to consolidate six pest management budget lines into a coordinated Crop Protection Program will result in an enhanced capacity to serve the needs of specialty crop growers and many other areas of U.S. agriculture.

State of Land Grant Research

Mr. Farr: As we are rapidly approaching the 150th anniversary of the Morrill Act that established the land grant universities, what would you say is the state of our agriculture research infrastructure? What is the most significant challenge facing the system, and how could Congress help address that challenge?

Response: While the state of our agricultural research infrastructure is strong, its decreased comparative position among other world powers is troubling.

The U.S. public agricultural research funding, in constant dollars, was approximately the same in 2011 as in 2001. At the same time, China dramatically increased their agricultural science investments between 2001 and 2006, and India's increase in agriculture research funding was steady during this time. USDA Economic Research Service analysis suggests that merely adjusting the U.S. public agriculture research investment for inflation will lead to tepid agricultural productivity growth.

The most significant challenge facing the land grant university system is funding uncertainty created by state budget pressure. This pressure, coupled with federal funding uncertainty, has the potential to adversely affect decisions related to property acquisition and disposal, equipment, and personnel. The administration's FY 2013 budget request calls for a mix of capacity and competitively awarded programs, which will benefit the institutions that grew out of the original Morrill Act. Appropriating the fiscal year 2013 funds outlined in this request in a timely manner could help mitigate the challenges faced by these institutions.

Mr. Farr: How important is research done at Land Grant Universities and by USDA, ARS to the development and improvement of production agriculture in America; who are the beneficiaries?

Response: Research done at Land Grant Universities and by USDA, ARS increases agricultural productivity, develops new markets for agricultural products, makes the agricultural production system more resilient, and improves the safety of the American food supply. As USDA's in-house research agency, ARS conducts a portfolio of research and provides scientific services that are designed to address agricultural problems of high national priority. NIFA supports capacity building programs that ensure U.S. agricultural science infrastructure, as well as competitive programs that award funding to only the worthiest projects with the highest potential for impact. Support for minority serving institutions are a significant part of NIFA's portfolio.

While there is a lead time between today's public sector agricultural research investments and tomorrow's productivity gains, analysts have found strong links between research, innovation, and agricultural productivity growth. Historically, each federal dollar invested in agricultural science returns twenty dollars to the U.S. economy. A portion of the future return on today's investment will include increasing the percentage of U.S. agricultural output devoted to biofuels, which has the potential to increase energy independence and create lucrative new markets for agricultural producers. Product development will also help producers meet the changing nutritional demands of health conscious consumers. Current research will help farmers, ranchers, land owners, and rural communities adapt to and mitigate drought, limited irrigation water supplies, floods, and temperature extremes. The confidence of consumers and trading partners in the safety of U.S. agricultural products will be increased by improved harvest and rapid detection methodologies currently under development.

While farmers, ranchers, and the rest of the agricultural industry benefit from this research, its positive effects extend to any individual who participates in the American economy.

US National Arboretum

Mr. Farr: The request for US National Arboretum has been relatively flat from the Agriculture Research Service (ARS) over the last several years, while, at the same time, costs have increased significantly. This has resulted in a serious inability of the Arboretum to fill essential staff positions and is threatening the ability of the Arboretum to maintain its world class Gardens and Collections and to provide the educational experience for visitors that would highlight the Department's priorities. What can your office do to provide adequate funding for the Arboretum?

Response: We have directed the leadership of the U.S. National Arboretum to develop a new strategic plan to guide priorities, operations, and relationships over the next 5 years. The Arboretum has convened a Task Force of scientists, public garden professionals, and other stakeholders who are developing strategic objectives and a new business model which will emphasize expanded public/private partnerships. The draft plan will be available for review during the summer of 2012 and in final form by fall.

Mr. Farr: Do you believe that the ARS is the most appropriate administrative home for the National Arboretum and, if not, what would be a more appropriate agency or department, either within or outside USDA, to provide the needed leadership and support?

Response: The primary mission of the U.S. National Arboretum is to conduct research related to trees and woody plants to advance the economic, environmental, and aesthetic value of ornamental and landscape plants. The landscape industry is the second largest segment of the U.S. agricultural industry. As a research facility and as a public garden the USNA demonstrates the value of research to the public. Leadership at the USNA is focused on developing strategies to enhance both aspects (research and public garden) at the Arboretum. Those strategies include novel approaches to funding the mission of the Arboretum given current restraints on the U.S. budget.

The National Grove of State Trees

Mr. Farr: On the grounds of the National Arboretum is a 20-acre plot called the National Grove of State Trees. This project was originally a joint project between the Arboretum, the U.S. Forest Service, and the National Association of State Foresters. While the State Trees themselves were planted in the early 1990s, the total project involving paths, signage, etc. was never completed and neither the Forest Service nor the National Association of State Foresters have been willing to provide the necessary maintenance funds to preserve the Grove. As a result, the grove is neglected and unsightly. Yet this is one of the areas in which visitors to the Arboretum are most interested, wanting to learn more about the trees that represent their states.

Do you think that the Secretary would be willing to direct the Forest Service to provide funding to improve the Grove, add the necessary signage, maps and pathways that would make this the destination that visitors from around the country would like to see?

Response: Establishment of the Grove of State Trees was a joint effort by the U.S. Forest Service, American Forestry Council (primarily representing state foresters), and the U.S. National Arboretum in 1990. Early in the project, the American Forestry Council ceased participation. The Forest Service continues to provide support, including $16,000 in FY2011, to partially support maintenance of the Grove.

During the past year the National Arboretum has completed extensive work on the trees in the grove. In the fall many of the trees were professionally pruned during a day of highly valuable service donated by the Bartlett Tree Expert Company. During the past winter and spring the trees have been mulched and the grove area lawns manicured. There are concerns remaining with the pine arbor and the adjacent picnic area, both of which could be addressed through renewed partnerships in support of maintaining this feature of the Arboretum. In addition, there is opportunity for expanded interpretative signage at the grove.

China Garden within the National Arboretum

Mr. Farr: The National China Foundation has entered into an agreement with USDA to raise millions of dollars to install and maintain a China Garden within the National Arboretum. At the same time, the Friends of the National Arboretum (FONA) is working with the Arboretum on a major revisioning of the Arboretum that would put the Arboretum on a more long-term stabile financial footing. This would require FONA to raise major gifts to support important programs at the Arboretum. Yet, the Department seems to have very strict and limiting rules about recognition of donors, not allowing any signage on the grounds. Where does this restrictive policy emanate from? Is it a regulation or policy of the Department, or is there some other source of the restrictions?

Response: As part of the U.S. Department of Agriculture, permanent donor recognition signage at the Arboretum is guided by departmental policy DR 5160-002. Further, as a Federal institution, the USNA must comply with Federal donor policy as outlined by the National Capital Planning Commission (NCPC) and the Commission of Fine Arts (CFA). The USNA has worked with these groups to create, for example, the U.S. National Arboretum Signage Master Plan, and for a specific collection program, the national Bonsai & Penjing Museum Signage Master Plan. These plans specify the location and style of all signage, including in the bonsai museum, a system that provides a format for donor recognition.

Based on these regulations, the current USNA Donor Recognition policy states that monetary donations will be recognized by a tiered system of categories defined by the Arboretum: (a) Lower level category donations appear in the Kiosk; (b) Middle range category donations receive a subordinate listing on the Donor Display, as well as mention in the Kiosk; and (c) Highest level category donations receive a prominent listing on the Donor Display and a description in the Kiosk. The Donor Display is a multi-panel changeable display in the Administration Building lobby and other Director-designated locations (such as the National Bonsai & Penjing Museum's education and exhibit pavilion) that acknowledges the highest categories of donations. The Kiosk is a digital interactive station in the Administration Building lobby and other director-designated locations that may contain a searchable database of donor information.

Temporary signage or acknowledgements in brochures and handouts to recognize sponsorship of exhibits or special events are permissible and have been done at the National Arboretum. The placement and aesthetics of temporary signage are still reviewable by CFA and NCPC.

Questions for the Record Submitted by Congressman John Culberson
Agricultural Research Service
Human Nutrition Centers

Mr. Culberson: Will the federal human nutrition centers operating under cooperative agreements continue to play a prominent role in future USDA nutrition research? How have these centers proven beneficial in fulfilling Agriculture Research Service (ARS) nutrition research priorities?

Response: ARS highly values all six Human Nutrition Research Centers, as they play distinctive roles in the coordinated research program of the agency. The three cooperatively operated centers each have unique Congressionally-mandated missions. The Jean Mayer Human Nutrition Research Center on Aging (HNRCA) at Tufts University in Boston, Massachusetts, is the premier center for nutrition and aging research in the world. Likewise, The Children's Nutrition Research Center (CNRC) at Baylor College of Medicine in Houston, Texas, is the largest and most comprehensive center for research on the nutritional needs of infants, children, and pregnant and lactating women. The Arkansas Children's Nutrition Center (ACNC) at University of Arkansas for Medical Sciences in Little Rock, Arkansas, is the only research facility in the world with significant focus on how early childhood nutrition affects development and risk for chronic diseases. All three of these cooperating centers play integral roles in establishing nutrient requirements for the varying age groups they study, have provided data for Dietary Guidelines for Americans, and have produced highly cited research papers on the unique nutritional needs of children and the elderly.

Mr. Culberson: Please provide a table showing each location for ARS funding of human nutrition research, and the dollar amount of funding in fiscal year 2012. Include the following in the table:

(a) The total dollar amount appropriated for each of these centers.

(b) The net dollar amount made available to each center (net to location funding).

(c) The funding increase recommended in the President's budget for each of these centers.

(d) The net increase/decrease in recommended funding for each of these centers (after adjusting for project terminations, redirections, etc).

Response: A table showing each location for ARS funding of human nutrition research and dollar amount of funding in fiscal year 2012 is provided for the record.

[The information follows:]

Agricultural Research Service

Human Nutrition

Location	FY 2012 Estimated Appropriated	FY 2012 Estimated Net to Location	FY 2013 Proposed Appropriated Increase	FY 2013 Net Increase or Decrease
Arkansas Children's Nutrition Center (Univ of Arkansas for Medical Sciences) Little Rock, AR	$6,785,500	$6,348,600	- -	- -
Western Human Nutrition Research Center Davis, CA	7,651,500	6,886,300	- -	- -
Jean Mayer Human Nutrition Research Center on Aging (Tufts Univ) Boston, MA	16,121,900	15,258,300	- -	-$186,000
Beltsville Human Nutrition Research Center Beltsville, MD	24,160,700	21,744,600	2,887,000	2,887,000
Grand Forks Human Nutrition Research Center Grand Forks, ND	10,622,200	9,560,000	- -	- -
Children's Nutrition Research Center (Baylor College of Med) Houston, TX	14,507,900	13,677,600	- -	- -
Human Nutrition Centers Total	79,849,700	73,475,400	2,887,000	2,701,000
Other Human Nutrition Research	5,588,300	5,366,600	100,000 1)	-3,829,000
Total Human Nutrition Research	85,438,000	78,842,000	2,987,000	-1,128,000

1) Includes Proposed Pay Costs for Human Nutrition Research Locations

2) Includes Proposed Pay Costs for Human Nutrition Research Locations ($100,000) offset by

Proposed termination of the Delta Obesity Prevention Initiative (-$3,929,000)

Mr. Culberson: For each of the six human nutrition research centers, how much of each center's appropriated funds are retained by ARS to cover administrative and other costs. Please include all reductions from appropriated funding for each of the centers.

Response: ARS assesses 10 percent on any program increases appropriated to the Agency to finance administrative and program management costs associated with conducting nationwide research programs. The balance, 90 percent, is allocated directly to ARS research projects at the locations.

Mr. Culberson: Please specify any new assessments or reductions proposed for the human nutrition research centers in FY 2012. Please include the rationale for these new assessments/reductions.

Response: The Fiscal Year 2012 Consolidated and Further Continuing Appropriations Act signed into law on November 18, 2011 reduced ARS' appropriation by $38.6 million and provided authority for the closure of up to 10 ARS laboratories, which in turn eliminated approximately 300 employee positions. ARS requires approximately $39 million to cover the one-time costs of personnel actions and real property disposition to implement these closures. To obtain the necessary funds on a one-time basis in fiscal year 2012, ARS is assessing the funding of all research programs.

Mr. Culberson: For each of the three human nutrition research centers operated through cooperative agreements, provide: a) number of ARS employees located at each facility and the number of non-ARS employees located at each facility as of January 1, 2012. b) Number of non-ARS employees whose work consists of all, or substantially all, ARS research projects.

Response: ARS maintains six Human Nutrition Research Centers, three of which are operated under cooperative agreements with academic institutions: the Jean Mayer Human Nutrition Research Center on Aging (HNRCA) at Tufts University in Boston, Massachusetts; the Children's Nutrition Research Center (CNRC) at Baylor College of Medicine in Houston, Texas; and the Arkansas Children's Nutrition Center (ACNC) at University of Arkansas for Medical Sciences in Little Rock, Arkansas.

a) ARS provides a portion of the funding available to each of these institutions. ARS tracks only the purpose and progress of the ARS research.
b) ARS employees as of January 1, 2012: HNRCA, 64; CNRC, 7; RCNC, 1 (Vacant); Non-ARS employees as of January 1, 2012: HNRCA, 204; CNRC, 293; ACNC, 64 ARS employees at HNRCA, 10; CNRC, 7; ACNC, 1 (vacant).

Mr. Culberson: Please provide a table depicting the amount of non-ARS funds secured by each of the six human nutrition research centers.

Response: A table depicting the amount of FY 2011 non-ARS appropriated funds received by each of the six human nutrition research centers is provided for the record.

[The information follows:]

Agricultural Research Service
Human Nutrition Research Centers
Non-ARS Appropriated Funding

Location	FY 2011 Funding Received
Arkansas Children's Nutrition Center (University of Arkansas for Medical Sciences), Little Rock, AR	- -
Western Human Nutrition Research Center, Davis, CA	$1,800,036
Jean Mayer Human Nutrition Research Center on Aging (Tufts University), Boston, MA	189,222
Beltsville Human Nutrition Research Center, Beltsville, MD	6,392,401
Grand Forks Human Nutrition Research Center, Grand Forks, ND	268,668
Children's Nutrition Research Center (Baylor College of Medicine), Houston, TX	53,740

Mr. Culberson: Of the amount appropriated in FY 2012 for the six ARS human nutrition research centers, please specify the dollar amount used to cover cost-of-living adjustments (COLAs) at each of the six centers?

Response: No funding was appropriated for cost-of-living adjustments (COLAs) in FY 2012.

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